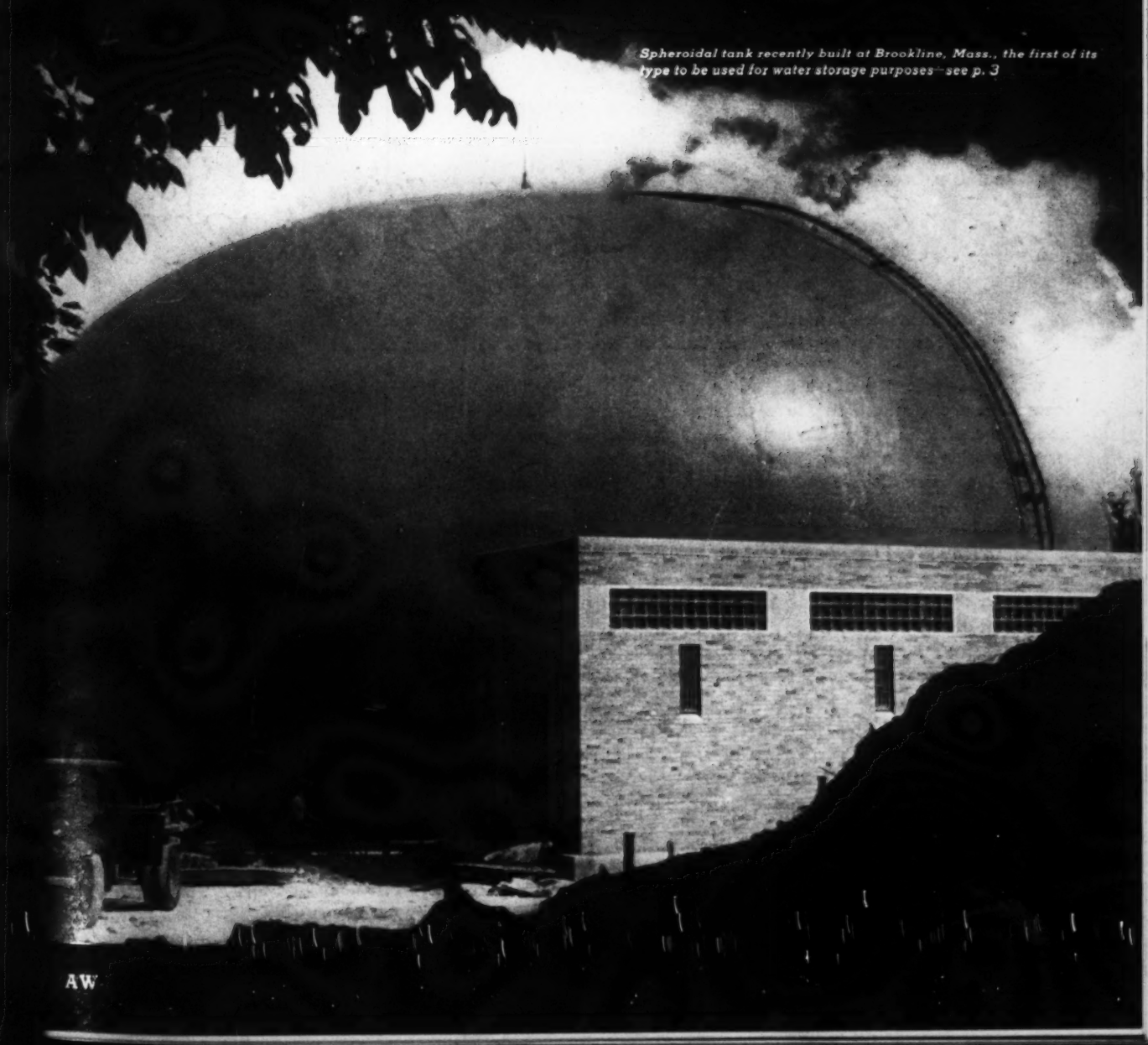
# NEWS



*Spheroidal tank recently built at Brookline, Mass., the first of its type to be used for water storage purposes—see p. 3*

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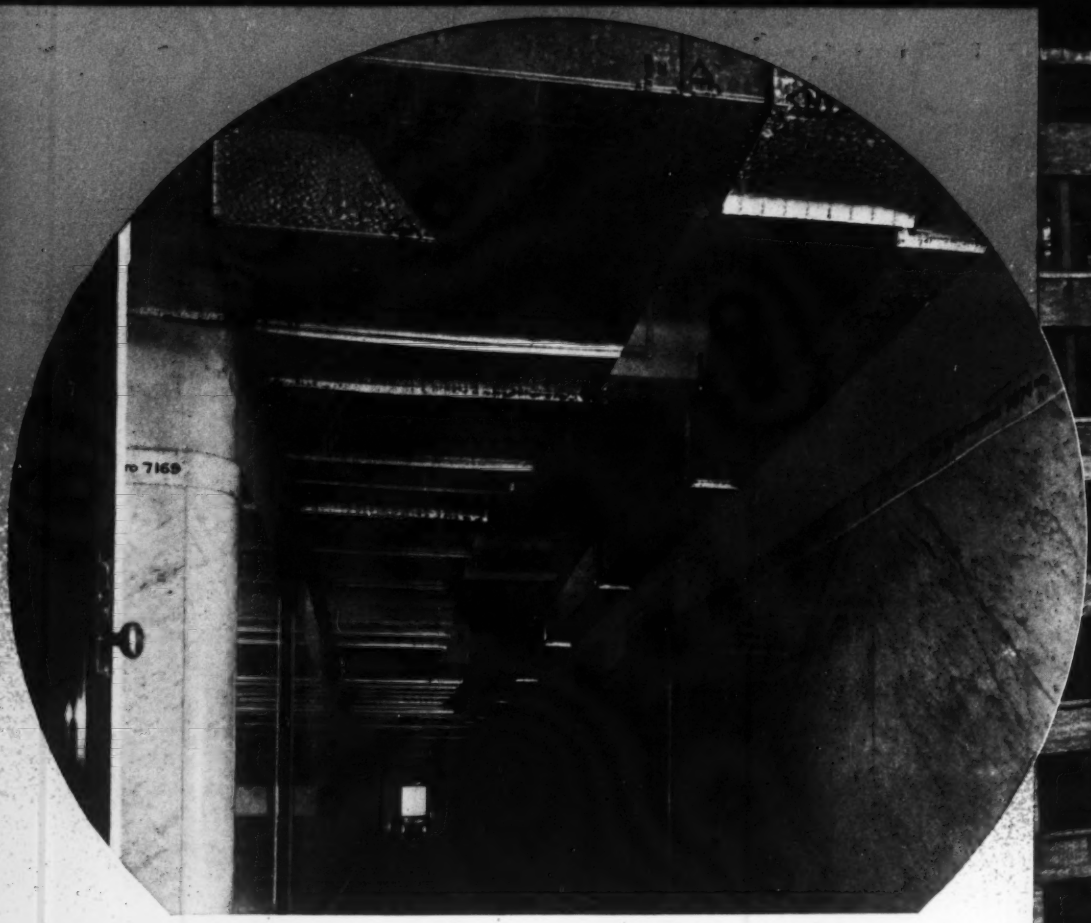

# A story about 13 stories

**Telling what one company did to make each story more habitable by air-conditioning, in which Toncan Iron plays a leading part.**

It was a 25-year-old office building located in a city where summers were none too cool. Being staunchly built, the owners decided to make it more comfortable for the employees and installed the largest air-conditioning system ever engineered into an old building.

Toncan Iron Pipe in sizes up to 16-inch and Toncan Iron Sheets—11 carloads in all—carry the cooling water and air to every part of this 13-story building.

Toncan Iron was selected because of its uniform high resistance to rust—its weldability—the ease with which sheets fabricate into ducts, its economy based on scores of records of unusually long life in service of every type where this copper molybdenum open-hearth iron has been used.

There's a place in every plant and every office building, projected or old enough for modernizing, where the staying powers of this alloy material will save money for the owner. Let us send you TONCAN IRON literature showing service records that will prove the point.

**REPUBLIC STEEL CORPORATION • GENERAL OFFICES: CLEVELAND, OHIO**

UNION DRAWN STEEL DIVISION • TRUSCON STEEL COMPANY • BERGER MANUFACTURING DIVISION
NILES STEEL PRODUCTS DIVISION • STEEL AND TUBES, INC.

REG. U.S. PAT. OFF.
REPUBLIC STEEL

# TONCAN IRON

***An alloy of refined open-hearth iron, copper and molybdenum—that grows old slowly***

**AVAILABLE IN** BLACK, GALVANIZED and GALVANNEALED SHEETS • CULVERTS • BLACK and GALVANIZED PIPE • CONDUIT • GROUND RODS • WELL STRAINERS • PLATES • WIRE and WELDING ROD • NUTS—BOLTS—RIVETS • BARS • SECTIONAL PLATE PIPE • ROOFING, GUTTERS and DOWNSPOUTS • TUBING • CASING

ENGINEERING NEWS-RECORD

# NEWS

Volume 123 JULY 27, 1939 Number 4

## NOTEBOOK NEWS

*Quick Surveys of Construction Events*

▶ Public works to be built under the proposed new bill now before Congress are not to be "self-liquidating," as first announced, but are to represent "recoverable" assets, according to the latest Senate version.

▶ Two new sets of initials will soon become familiar symbols. They are PRA for Public Roads Administration, new name for the Bureau of Public Roads, and PBA for Public Buildings Administration, new name for public buildings branch, Procurement Division, Treasury Department.

▶ The spread of bids on Lackawack Dam, for New York City's new Delaware Aqueduct supply, indicates a rather wide difference of opinion. Low was about $15,400,000, high over $22,000,000.

▶ New and interesting things occur every day, as witness our cover picture this week. Such spheroidal tanks were originated to store volatile liquids, but Brookline, Mass. decided they met esthetic and low-range-of-head requirements for municipal water supply storage.

▶ Next to floods, trucks seem to offer the greatest menace to our highway bridges. Another casualty is reported in this issue. It has been suggested that truck control might be inaugurated as a companion to flood control.

▶ Washington opinion is that some kind of a public works bill, probably without benefit of federal grants, will be passed this session. Also that the Walsh bill to extend the scope of the Walsh-Healy Law, governing wages and hours on government contracts, is on the doubtful list.

*Wide World*

**NEW YORK HOUSING HEAD**

WILLIAM WILSON, architect and engineer, was appointed on July 18 to head of the Department of Housing and Buildings in New York City. Wilson has served as advisor to the state board of housing on low rent and slum clearance projects and as a consultant on the Triborough Bridge and other New York City engineering works. He will replace Alfred Rheinstein who will now devote all of his time to his other job, that of head of the New York City Housing Authority.

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### *Stevens Dam Bids to be Opened*

On Aug. 21 bids will be opened in the Seattle office of the district engineer, U. S. Army, for the construction of Isaac Ingalls Stevens (formerly Mud Mountain) Dam on the White River near Enumclaw, Wash.

The dam, a rolled-earth fill 400 ft. high in a narrow canyon 47 mi. from Seattle and 42 mi. from Tacoma, is for flood control. (See *ENR*, May 18, 1939, p. 2.)

### *Works Finance Act Goes to Senate*

**Committee report and also action in the House expected soon**

With its name changed, with the revolving features which would have made it perpetual stricken out and with a net reduction in the loans authorized of $450,000,000, the Works Financing Act of 1939 (*ENR*, July 13, 1939, p. 47) was reported to the Senate on July 21. The House committee which has been considering the bill is expected to report it within a few days, and action on the bill will probably be completed next week.

The Senate committee, which completely rewrote the bill, has substituted "recoverable" for "self-liquidating" in describing the expenditures contemplated—indicating a belief that such sources as local tax revenues may supplement actual earnings of projects in repaying the loans made under the bill.

As reported, the bill increases the present borrowing capacity of the Reconstruction Finance Corporation by

*(Continued on page 7)*

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### *Dam and Reservoir Group Appointed in Connecticut*

Gen. Sanford H. Wadhams, director of the state water commission, has been appointed chairman of the new Dam and Reservoir Commission authorized by the last session of the legislature in Connecticut. Shepard B. Palmer, Norwich civil engineer, is the secretary of the group.

The body has been given broad powers in the matter of flood control, and rules and regulations will be drawn up to govern all dams and reservoirs. An inventory will be made of 2,000 dams located throughout the state; this work was once undertaken by the WPA but was discontinued recently.

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## *Mason & Hanger Co. Bid Low on Lackawack Dam*

The Mason & Hanger Co., New York City, submitted the low bid of $15,486,150 to the New York Board of Water Supply on July 25 for the construction of Lackawack Dam on the Delaware River water supply project for the city. Jahn-Bressi-Bevanda Const. Co., Inc., Los Angeles, was second low with a figure of $16,195,700. The three other bids received were: Keystone Co., San Francisco, $16,720,150; Perini-Maney-Rugo, Framingham, Mass., $19,794,287; Lackawack Dam Corp., Pleasantville, N. Y., $22,134,000.

Lackawack Dam will be a rolled earth fill structure 200 ft. high, 2,500 ft. long, containing some 9,000,000 cu.yd. of fill. Included in the contract are also Shaft No. 1 of the aqueduct, 980 ft. deep, 1 mile of aqueduct tunnel, caisson cutoff wall under the dam to rock, 1,400 ft. blowoff tunnel and a long waste weir. The diversion tunnel, earth cofferdams and part of the base of the dam are being completed under a previous contract.

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## *Rio Grand Survey Completed*

Surveys for a proposed 300,000-acre irrigation development on the Texas side of the lower Rio Grande River have been completed by an engineering board headed by J. L. Burkholder of El Paso, senior engineer of the international boundary commission.

Development of the irrigation projects by the Mexican government has caused, at certain periods each year, such a decrease in the normal flow of the international boundary stream that but little water is obtainable for crops on the American side.

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## *A.S.C.E. Directors Approve Salary and Grading Plan*

At a meeting of the Board of Directors of the American Society of Civil Engineers in San Francisco prior to the convention this week, Glenn L. Parker was appointed to fill the unexpired term of the late R. K. Tiffany, director from District 12. W. J. E. Binnie, president of the Institution of Civil Engineers, London, England and J. M. R. Fairbairn, until recently chief engineer of Canadian Pacific and past president of the Engineering Institute of Canada, were elected honorary members.

The most important action of the board was to approve the salary schedule and grading plan that has been developed over a long time and through intense effort by a special committee. A pre-professional grade (salary range $1,320-$1,980) was added to the three grades put out for discussion last January. Minimum requirements for the professional grades include two years experience plus graduation from an accredited school or eight years experience for non-graduates. Salaries range from $2,040 in grade one to $3,900 in grade three.

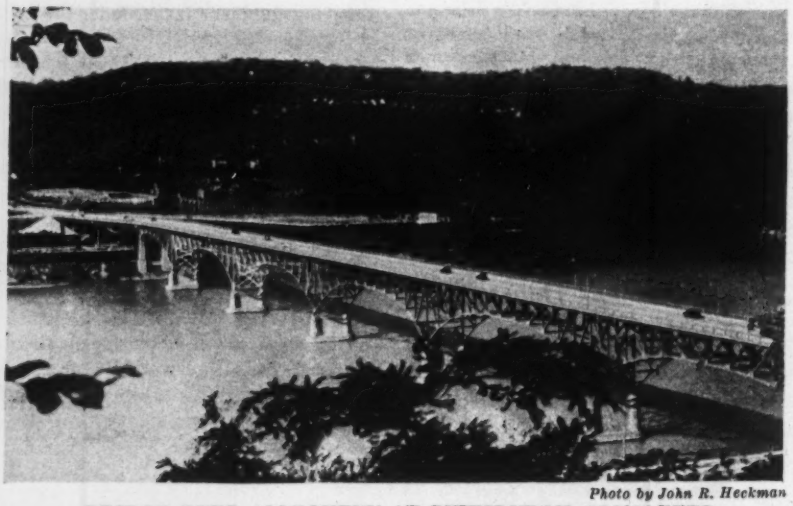

*Photo by John R. Heckman*

**BRIDGE OVER ALLEGHENY AT PITTSBURGH COMPLETED**

THE new Highland Park Bridge over the Allegheny River at Pittsburgh has been opened to traffic. Built at a cost of $2,500,000, the bridge will replace the old Highland Park Bridge farther downstream, which was erected in the eighties and now is to be dismantled. Construction started in November, 1937 with a federal grant of $710,000. The main crossing totals 1718 ft. and the approach spans 589 ft. A 42-ft. roadway flanked by 2½ ft. sidewalks, is provided. The Holmes Construction Co. was the contractor for the substructure and the Bethlehem Steel Co. for the superstructure.

# WASHINGTON HIGHLIGHTS

*Special reports by Paul Wooton*

RUMORS currently circulating to the effect that the U. S. Housing Authority was planning to do something about public housing for the middle income group between $1,100 and $1,800 were laid at rest, at least as far as the administration is concerned, when USHA Administrator Straus said in a speech that the lowest income group alone is now being served and that future efforts will be confined to this group. He pointed out that USHA monthly rentals now range $6 or $7 per dwelling in the South to $17 or $18 in the North. USHA can help the middle group, he said, by providing an example of low cost construction to private builders. If builders duplicated the $3,100-$3,600 construction costs of USHA, he asserted, they could serve the $1,500 income group and, with a slight reduction in interest rates, the $1,200 income group.

TIME FOR STARTING work on the new Niagara Falls Bridge at Niagara Falls, N. Y., was extended until June 16, 1940, by a bill signed by the President on July 26. The new measure repeals a provision in the 1938 bill authorizing construction of the bridge which would have exempted bonds of the Niagara Falls Bridge Commission from taxation. It also requires that the commission receive competitive bids on its securities. An extension of the starting deadline was passed earlier in this session but was vetoed by the President because he objected to the tax-exemption feature in the original authorization.

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## *A Driver and His Horse Wait to be Unionized*

Richard H. Smith, of Springfield, Mass., last week awaited a ruling on whether he and his horse would have to join the local Hoisting Engineers' Union.

James Bird, business agent for the local, advised a contractor building a new school that a licensed hoisting engineer should be employed to lead the horse, which is used to haul up pails of mortar to masons building a smokestack.

Smith, driver of the horse, said he was willing to join the union and so was his horse. Union officials went into a huddle with the construction foreman to work out the answer.

Wide World

**FIRE HALTS WORK ON CHICAGO SUBWAY**

SEVEN WORKERS in Chicago's new subway were overcome July 21 when sparks from an acetylene torch ignited packing used to plug a leak caused by a sand pocket, forcing them to fight the flame in gas masks. All tunnel operations were halted for a short time. Difficulty is also being encountered because of ground settlement which necessitated temporary diversion of street-car traffic.

## *Hardy Cross Reports On New Orleans Hospital*

Amelioration of the condition of overstress in four columns supporting the main girders above the chapel in the state-owned, 20-story Charity Hospital in New Orleans, is recommended by Hardy Cross, professor of structural engineering of Yale University, who was commissioned to make a study of the PWA financed building following a settlement of as much as 9 in. at some points in the building. His conclusions were: (1) It can be stated, with the limitations indicated in conclusions No. 5 and No. 6 below, that immediate occupancy of the building is justified.

(2) The obvious cracking in the walls and partitions has no relation to the safety of the structure. These cracks show only that settlement has occurred, a fact already known in other ways. Determination of the effect of this settlement on the safety of the framework is a matter for separate study.

(3) Most connections used in this structure and the properties of the steel permit large deformations without serious danger.

(4) No remedial changes in the structural framework are recommended except in the columns supporting the girders above the chapel.

(5) While these columns are probably not in danger, some steps should, as a matter of engineering precaution, be taken to improve their condition.

(6) This report refers to present conditions. It does not discuss causes or progress of settlement nor anticipate changes in conditions of the superstructure resulting from further settlement. Hence it is recommended that observations at critical points be continued for several years.

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## *Spheroidal Tank Used For Water Storage*

Something new in municipal water storage facilities has made its appearance in Brookline, Mass., where a spheroidal shaped tank has just been placed in operation. Built of steel plate sections which are electrically butt-welded, the structure assumes the shape taken by a water-filled balloon resting on a flat surface. It is of the same design as spheroidal type tanks used for gasoline and oil storage.

This type of water tank was selected by the Brookline water board to meet unusual esthetic standards combined with requirements for large storage within a relatively small range of head. Located in a high-value residential district, it provides 1,666,000 gal. storage, and yet stands only 47 ft. high. It has a diameter of 94 ft. The spheroidal shape was chosen because it lent itself to pleasing architectural and landscape treatment. The tank is pictured on the front cover of this issue.

The structure was designed and erected by the Chicago Bridge & Iron Co. for the Brookline Water Board.

## *Building Materials Production Studied*

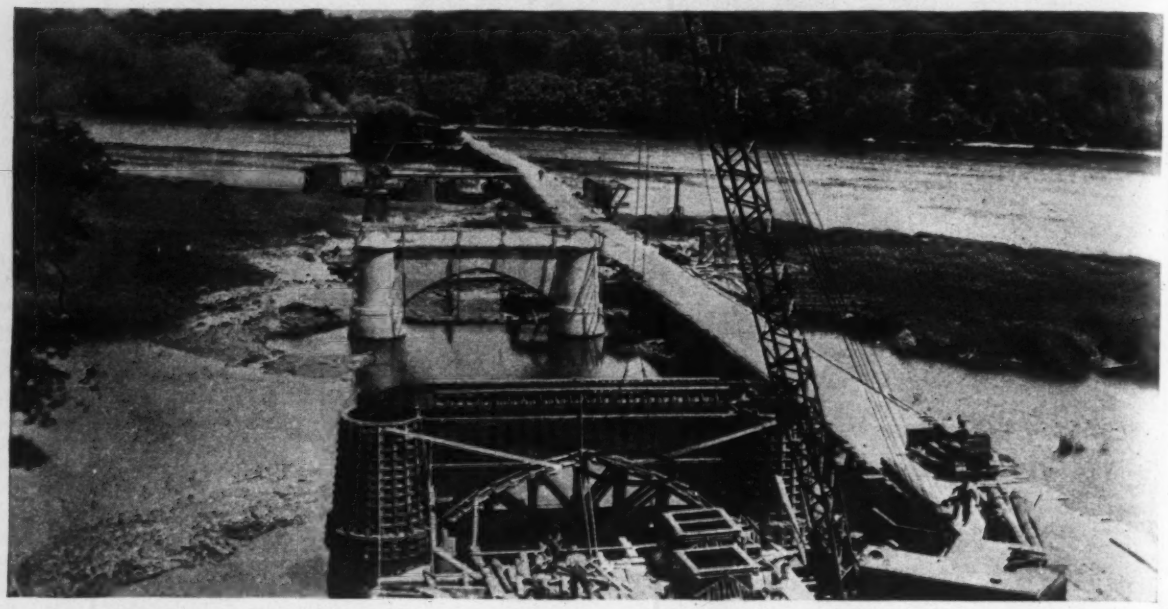
**Department of Commerce determining extent of monopolies in commodities**

A study to determine the degree of concentration in the production of 3,000 commodities, with special emphasis on building materials, is now being made by the Department of Commerce. This fact was brought out in the testimony of Dr. William Thorp, economic adviser to the Secretary of Commerce, during the recent monopoly hearings on the construction industry before the Temporary National Economic Committee. He introduced figures covering 275 products used in the building field, to show the relatively few companies which make many of the products and the large proportion of the business (dollar volume) which goes to the four leading manufacturers of each group of products. The figures are based on those of the Census of Manufacturers for 1937.

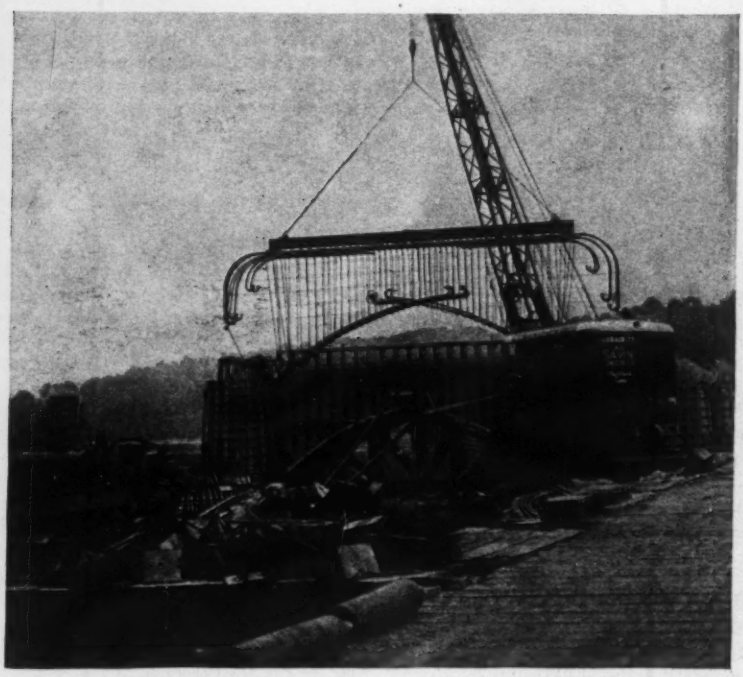
According to his figures, the four leading manufacturers of plumbers supplies, for example, produce 75 per cent of nine out of the 23 items listed in this category. Under the heading "clay products and non-clay refractories," which includes various types of brick and tile, conduit, sewer pipe, stoneware, pottery and about 45 other items, the figures show that four leading manufacturers make more than 50 per cent of nearly 30 of these products. An exception occurs in the case of common brick where only 7 per cent of the production is done by the four leading companies among the 671 producers of this product. In the iron and steel industry, where there are relatively few producers, more than 65 per cent of the output of nearly all the items is produced by four leading companies. Under "structural and ornamental metal work," on the other hand, are found a comparatively large number of manufacturers, although in some cases, such as fabricated structural steel, 55 per cent of the production is handled by the four leading companies of this product. The figures for gypsum products—wall board and plaster—show that over 75 per cent of 12 out of less than 20 items listed is turned out by the four manufacturers of these products.

The conclusion of Dr. Thorp, as a result of the study, was stated at the end of his testimony at the fact-finding hearings. "The construction industry," he said, "is one in which, through all its stages, there is an underlying tendency for the sellers to be stronger than the buyers."

# Merritt Parkway's Housatonic River Bridge To



*FROM A TIMBER TRESTLE reaching out from each shore to the navigation channel, crawler cranes drive the cofferdam sheet piles and 62-ft. steel H-beam foundation piles for the Merritt Parkway bridge over the Housatonic River. Concrete for the pier bases is mixed at an inshore plant located in a nearby gravel pit. Forms are built and reinforcement is assembled on the trestle floor, and both are handled by the crawler cranes.*



*FORMS AND REINFORCEMENT are assembled in as large units as possible before construction of the pier bases begins. This makes erection rapid and almost entirely a power crane operation besides insuring convenient working space and ample time for the exact workmanship that is required.*

GETTING READY for the steel workers, who take over this fall, is calling for fast work by the A. T. Savin Construction Co., which has nine cofferdams and two pneumatic-caisson foundations to build for Connecticut's new Housatonic River bridge. The pictures on these pages reveal recent progress and general features of the construction plant. Primary present interest lies in the unique pier design while later the unusual single-column bents and the open-mesh steel deck, to accommodate two 26-ft. roadways, will command attention. As a link in the famous Merritt Parkway the Housatonic River bridge is the largest of over 70 bridges, mostly grade separation structures, required by this 37-mi. superhighway.

Turning to the foundations, a line of seven piers will extend out from the west shore before any really deep water is reached. Beyond the channel two more piers will be built, similar to the first seven. None of these is unusual, all being built in steel cofferdam and founded on 62-ft. steel H-piles.

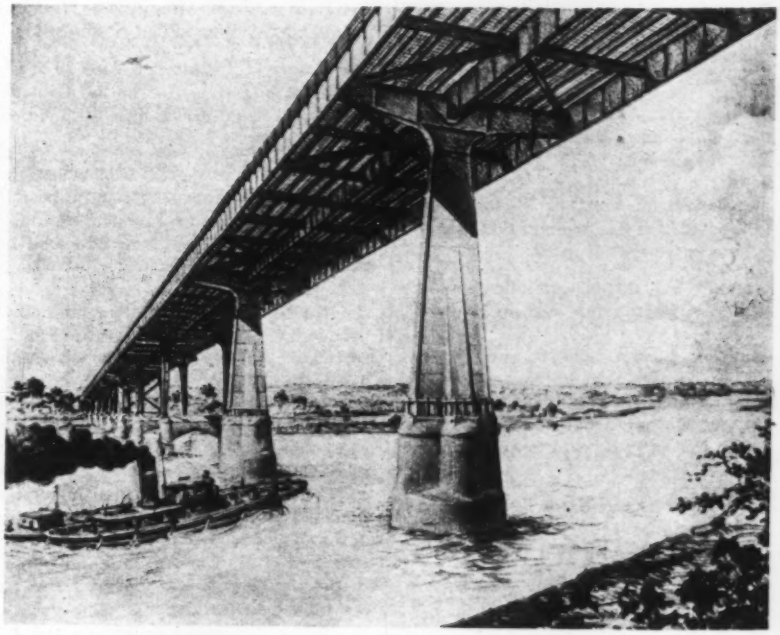
Out in the channel, however, the concrete piers will be founded on rock 50 ft. below low water, and operations will be under air with steel pneumatic caissons.

# Takes Shape

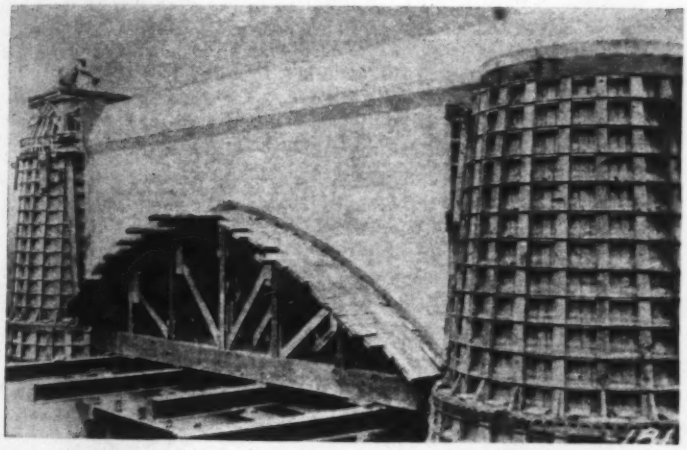
In November, the American Bridge Co. will start erecting steel and the whole job will be finished in June, 1940, at a cost of about $1,000,000.

The design for the bridge was developed by the state highway department under the direction of Leslie G. Sumner, engineer of bridges. It is steel plate girder construction 1,826 ft. long, the 12 spans varying in length from 128 ft. to 224 ft. A clearance of 90 ft. above low water does away with the need of a draw.

The project is being financed with the help of a PWA grant of about $450,000 representing 45 per cent of the estimated total cost of $1,000,000. Joseph M. Curley is resident engineer for the PWA on the job, assisted by William J. Mulvey. Representing the Connecticut state highway department are Leo J. Conaty and Howard S. Ives, project engineers.



*DISTINGUISHING FEATURES of the Housatonic River bridge are one-leg or T-bents and an open mesh steel floor. This type of design for the river piers makes them narrow enough to permit a 150-ft. ship channel on a 54-deg. skew to pass through a 224-ft. opening.*



*PRECISION OF FORMWORK is indicated particularly in the cylindrical and tapering forms for the pier shafts. A cylindrical, a tapering and a cap form unit is made for each shaft.*

*CHANNEL PIER construction required a pneumatic caisson operation to rock 50 ft. under water. The view shows the prefabricated caisson coming on the site ready to begin work on the first of the two channel piers.*

# OBITUARY

HARRY W. CRANE, retired construction engineer, died July 22 in New York at the age of 73. He had served with the Pennsylvania Railroad and the Bethlehem Steel Co. before going to the Gulf Oil Co. as chief construction engineer. He retired in 1931.

DAVID L. HELLER, president of the Heller Construction Co. of Newark, N. J., died July 16. He was also president of the Assembly and Oxford Building and Loan Association in Newark and was a director of the United States Realty and Investment Co. in that city. He was 65.

CARL LAGER, president of the Morris Machine Works at Baldwinsville, N. Y., and a designer of hydraulic machinery and pumping equipment, died July 17 at the age of 69. He was a designer of equipment for irrigation, drainage, sewage disposal plants, drydocks, and other such purposes.

HUGH BEUGLER, 66, a consulting engineer who worked on many power plants and who was chief engineer of the Elmira, N. Y., Water, Light & Railroad Co., died July 16.

AUGUSTUS H. BENNING, 37, a civil engineer and assistant state engineer of the National Youth Administration, died July 14 in Atlanta, Ga. He was a graduate of Alabama Polytechnic Institute and took post graduate work in engineering at Cornell University.

ALFRED ST. GELAIS, 44, construction engineer of Montreal, was killed July 14 while working on the construction of a monastery for the Benedictine Fathers.

ABRAM SWAN, JR., 64, former Trenton city commissioner and for the past two years director of public safety for the New Jersey State Motor Vehicle Department, died July 17. He entered the employ of the city of Trenton as a rodman in the engineering department and was later city engineer.

CHARLES H. MORRIS, superintendent of the New Brunswick, N. J., water department for the last 24 years, died July 20. He was 72. At one time he was president of the New Jersey Water Works Association.

ROBERT D. BEARDSLEY, 62, borough engineer for Naugatuck, Conn., died July 18. He entered the Naugatuck engineering department in 1903. Since that time he had been associated with practically every public project undertaken by that city and he also did private work which necessitated maintaining a private staff of engineers. He was a graduate of Connecticut State College.

WILLIAM H. GILBANE, 63, for 30 years president and treasurer of the Gilbane Building Co. of Providence, R. I., died July 19.

GUY C. EMERSON, 72, who retired in 1936 after 25 years as consulting engineer for the Boston Finance Commission, died July 17. He was educated at the Massachusetts Institute of Technology. In his early career he was assistant engineer for the Boston metropolitan sewerage commission and later served in that capacity on construction of Boston subways. In 1900 he was appointed deputy superintendent of the Boston sewer division, and served for a short time as superintendent of streets and commissioner of bridges. From 1905 to 1908 he was engaged in irrigation work for the federal government in Wyoming, having charge of the construction of the Corbett dam and tunnel in the Big Horn basin; he was also on the Shoshone project.

JAMES B. EGBERT, former resident engineer of Westchester County, N. Y., died July 18 at the age of 56. After his graduation from Cornell University in civil engineering in 1907, he worked as an engineer for the state of New York. He served as resident county engineer for Westchester while the parkways were being built.

GUY PINNER, chief engineer of the American Cyanamid Co., died recently at the age of 51. He received a civil engineering degree from North Carolina State College in 1907 and began his career as a draftsman in the design department of the Phoenix Bridge Co. He was later consulting engineer in New York for the American Bridge Co. In 1908 he became associated with the construction firm of James Stewart & Co. as engineer in charge of the naval operating base at Norfolk, Va. Three years were spent in Colombia, South America, on engineering projects in connection with large oil developments. He served later as chief engineer and then as manager of the Andean National Corp. in South America, returning to New York in 1925 to become vice president of the Latin American work of the Foundation Co., contractors. Joining the American Cyanamid Co. in 1929, he had been its chief engineer since January 1931.

HOMER O. BLAIR, 57, consulting industrial engineer of Tacoma, Wash., died July 19. One of the first proponents of the $6,000,000 suspension bridge now under construction across The Narrows near Tacoma, he had been identified prominently with civil engineering in western Washington for 35 years.

# BRIEF NEWS

Because no relief money has been received from the Dominion Government since April, Quebec has shut down its $42,000,000 work relief program. 34,000 men are affected.

Wisconsin's Governor Heil recently signed a contract for approximately $2,500,000 of new highway construction for various parts of the state. This was done after a clause for diversion of $7,500,000 of highway money was stricken by the state assembly from the tax bill.

Elsie McGill, recently appointed chief aeronautical engineer for the Canadian Car Co. at Fort William, Ont., is the first woman in the Dominion to become a member of the Engineering Institute of Canada.

The Alabama Association of County Commissioners has drafted for presentation to the state legislature a bill which proposes to employ full-time engineers in all Alabama counties at salaries from $2,000 to $5,000, the salaries to be paid by the state and counties jointly. About 15 of the state's 67 counties have full-time engineers.

Fishermen report this year many varieties of fish are running in larger schools than ever before in the section of the Niagara River above the upper rapids. The sportsmen attribute this condition to the recent completion of sewage disposal plants at Buffalo and Niagara Falls. Untreated sewage formerly poured into the stream, killing thousands of fish annually.

Two sections of the bankrupt Ft. Smith and Western Ry. have been sold in the process of junking 221 mi. of main line. The line from Coal Creek to Meridian in Oklahoma has been sold to the Schiavone-Bonome Corp. of New York, and that from Meridian to Guthrie to the Commercial Metals Co. of Dallas. The terminal at Ft. Smith has been sold to the Missouri Pacific R.R. Co. for $85,000, sale being subject to I.C.C. approval. Total sales amount to $445,000 and the money will be used to pay back taxes.

The city council of Stanford, Ky., expects its offer of $75,000 to the Kentucky Utilities Co. to be accepted as payment for the city's waterworks system. Payment is to be made by issuing bonds payable solely from water revenues. The company first asked $100,000 when negotiations began a year ago.

## Works Finance Act

(Continued from page 1)

$2,390,000,000. From borrowings under this act and previously existing borrowing capacity. RFC will turn over $500,000,000 to the Public Roads Administration, $350,000,000 to PWA, $500,000,000 to the Rural Electrification Administration, $600,000,000 to the Farm Security Administration, and $90,000,000 to the Bureau of Reclamation. In addition, the RFC itself will use $350,000,000 for loans to railroads for the purchase of new equipment.

### Forty years for payment

All the funds except that of the Bureau of Reclamation are to be loaned or expended on a basis which will return the full amount within forty years at an interest rate which will meet the cost to RFC of its borrowing but not greater than the rate on the longest-term government loans—probably about 2 to 2½ per cent.

The $90,000,000 allotted to reclamation is essentially a temporary addition to the Reclamation Fund and will be spent under the rules governing that fund—*i.e.*, it will be used to finance reclamation projects and be repaid, without interest, by the reclamation districts.

The Public Works Administration will use its $350,000,000 for loans to non-federal projects of the character it is now undertaking. No grants are contemplated, but it is pointed out that the low interest rates involved constitute, as compared with PWA's former 4-per cent loans, a subsidy of about 20 per cent.

### Road funds differ

Most novel of the contemplated programs is that of the Public Roads Administration. This body—the former U. S. Bureau of Public Roads—may use its fund either to make loans to states and local governments for toll highways and highway structures or to construct and operate such projects itself. It is provided, however, that PRA must obtain the consent of the states to build highways within their borders.

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## Bridge to be Built At Peoria, Ill.

Contracts for the proposed $2,000,000 Illinois River bridge at Peoria will be let this fall and construction begun before 1940, according to an announcement by Ernst Lieberman, chief highway engineer for Illinois, July 18.

The bridge, according to present plans, would have an overall length of 5,700 ft. and a center span of 536 ft.

## Colorado Tunnel Bids Rejected by Ickes

Bids submitted for the construction of the Continental Divide tunnel, part of the Colorado-Big Thompson federal reclamation project in Colorado, were rejected July 22. Three bids, one irregular, were received and opened by the Bureau of Reclamation on June 7 in Denver, the lowest being in the amount of $10,759,405. It was submitted by the Shasta Construction Co. The Bureau recommended rejection of the bids and readvertisement of the work on the grounds that of the two bids which qualified, both were too high, and that there was insufficient competition. New bids are expected to be opened in about 30 days.

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## Illinois Will Not Refund Tax Paid by Contractor

Governor Horner of Illinois July 20 vetoed a bill to appropriate $1,910,208 for refunds to contractors and optometrists for sales tax they paid between March 1, 1935 and Dec. 31, 1937, when a Supreme Court decision established their exemption from this special tax.

The governor's message said that the refund would have been a windfall to its beneficiaries, since their prices during this period were computed with the tax included. Contractors have filed claims for approximately $5,750,000 with the department of finance.

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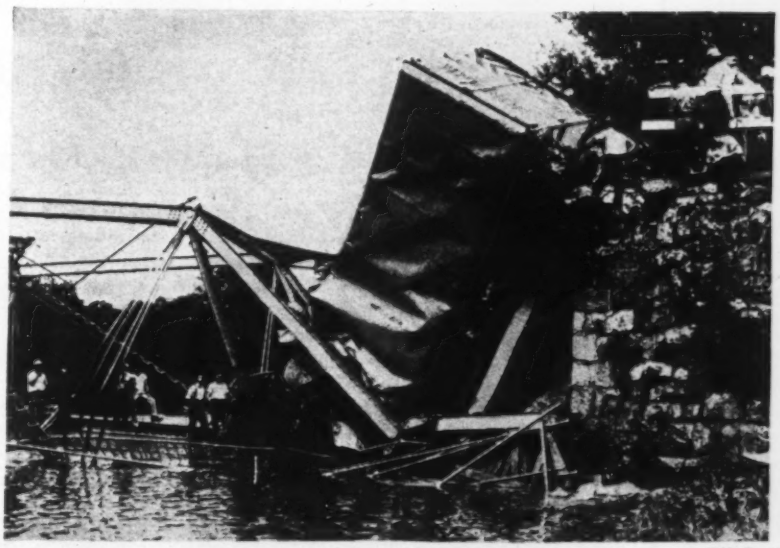
## Denison Dam To Be Started

Condemnation suits, giving Army Engineers access to the Denison dam site on the Red River, were filed in federal district court at Muskogee, Okla., July 15. These suits enable the War Department to take possession of the land and start work with the $4,000,000 appropriated recently by Congress. Title is sought to 1,442 acres in Oklahoma, and similar suits are to be filed in Texas federal courts for lands south of the river.

The $4,000,000 represent only the first year's expenditure, the total cost being estimated at $56,000,000. (See *ENR*, May 25, 1939, p. 43).



*Wide World*

**THREE DIE WHEN BRIDGE COLLAPSES**

THREE PEOPLE were killed July 22 when one of two 126-ft. span pin-connected trusses in a bridge over the Juniata River, 25 mi. east of Altoona, Pa., collapsed under the impact of a truck and trailer hitting an end post. According to E. E. Brandow, Pennsylvania state bridge engineer, the six-wheel trailer, weighing 35,000 lb. with load, failed to negotiate a sharp turn on the bridge approach, snapped the end post and pushed the truss off the abutment, causing the top chord to buckle at the third and fourth top chord joints and dropping the entire span into the river. As the bridge went down the trailer slid on top of a touring car headed in the opposite direction on the bridge, crushing the three occupants of the car to death. The truck driver and two companions were not injured. Five pedestrians on the bridge sidewalk were, fortunately, only slightly injured in the collapse.

Clear roadway width was 19 ft., and new stringers and timber decking has been placed on the bridge in 1934 at which time the trusses and floor-beams were strengthened to carry safely two lines of 13-ton, four-wheel trucks.

Capt. **Joe Donovan,** master of the 28-in. hydraulic dredge *Jefferson,* is a veteran at the Fort Peck Dam, where he has seen his big 5,000-h.p. craft pump some 30,000,000 cu.yd. of material into the big fill in the past four years. Captain Donovan has had some of the tougher assignments, the most notable being the building of the 11,000-ft. dike where it pumped 40,000 cu.yd. daily against a 220-ft. head.

**N. J. Tayman,** resident engineer for the Board of District Commissioners, Washington, D. C., has the job of improving Major L'Enfant's perfect plan for the city of Washington at one of the more congested multiple intersections. He is in charge of the grade separation project at Thomas Circle, where busy Massachusetts Ave. crosses three other streets. The avenue will duck under the circle in a subway.

**Paul Guinn,** superintendent for the Thompson-Markham Const. Co., San Francisco, is showing the world how to drive small tunnels in a hurry. On the Alpine-Draper and Olmsted Tunnels, both 6-ft. bores, part of the Provo River reclamation project near Salt Lake City, he has rigged up a long belt conveyor that rides its own tracks and extends back over a full train length of cars.

# MEN AT WORK

**R. B. Wiley** (center), head of the School of Engineering at Purdue University, with **K. B. Woods,** assistant professor of highway engineering (left), and **Donald Belcher,** research assistant, are looking at a boring for density determination from a test road under joint research by the Indiana state highway department and Purdue. This is a project started under the direction of W. K. Hatt in 1937. When Hatt retired last December Professor Wiley succeeded him as director. Base courses of two test roads have been built and tested by 18,400 truck trips; a third road is yet to be built for the purposes of this joint research.

Smiling in the rain are **C. G. Will** (left), engineer of construction, and **W. H. Faulkner,** concrete engineer, for Seattle City Light on the building of Ross Dam on the upper reaches of the Skagit River in Washington. They're smiling because they are about to leave for a week-end at home; glad to get away from a splendid camp in a gorgeous country, the kind of a place most of us seek for vacations. Ross Dam is in a hard-to-get-to location. Will and his crew are supervising difficult construction in the deep, narrow gorge being done by General-Shea-Columbia. Faulkner is a regular concrete hound, and figures out mixes that even the contractor likes.

## *Louisiana Work Continues Despite Investigation*

Construction on various PWA and WPA projects in Louisiana has continued without halt despite the investigations and political upheaval. These have included the indictment of George Caldwell, superintendent of construction at Louisiana State University, by the Baton Rouge grand jury for embezzlement of materials and the arrest of James A. Marshall, WPA foreman at the University.

While investigations of the situation at the University are being conducted, an inquiry was instituted concerning the construction of the state-owned charity hospital in New Orleans, in which $3,600,000 PWA funds were invested. While the federal government was making inquiries, further developments of interest in the construction and engineering field materialized when a group of 90 prominent New Orleans business men made the following statement to Governor Earl Long:

"One firm of architects, it is reported, has for years practically monopolized all the state's building programs. It is difficult to persuade the man on the street that this monopoly could be enjoyed except through favoritism by parties in power seeking some advantage.

"One firm of insurance agents, it is reported, has for years enjoyed a practical monopoly on public insurance. It is irrational to think that this condition would be permitted to exist without improper motives in official places.

"It is reported that one firm of contractors has been given the opportunity to secure a great disproportion of public work. While the forms of competitive bidding have apparently been followed, it is inconceivable to the average citizen that one contracting firm should prove to be the lowest bidder in so many cases."

L. P. Abernathy, chairman of the Louisiana highway commission since 1936, has resigned and is being succeeded by Lether E. Frazar, president of the Southwestern Institute at La Fayette.

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## *Commutation Toll Rate Announced for Parkway*

The Connecticut Highway Department is issuing a $10 toll ticket good for one year to relieve the purchaser of paying a ten-cent toll for each trip over the Merritt Parkway, following a ruling of the Attorney-General. Automobiles owned and registered by the federal government are not subject to the toll.

## *New Safety Record Made at Grand Coulee*

A new record of 100 days without a fatal or total-disability accident has been achieved in the construction of Grand Coulee Dam. The 100 days, which ended at midnight July 14 was the first active construction period since 1934 to be free of at least one fatal accident.

During the period more than 1,000,000 cu.yd. of concrete was added to the dam, more than 2,000,000 tons of aggregate was washed and screened and more than 100,000 yd. of solid granite excavation was completed. More than 6,000 men worked during this period, doing 2,000,000 man-hours of labor.

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## *Chicago Subway to Cost 7 Million More*

Chicago's subway will cost at least $7,000,000 more than the tentative estimate of $40,000,000, according to Philip J. Harrington, commissioner of subways and tractions. About $2,000,000 of the increase, it is estimated, will result from the city's engineers' insistence that the shield method of tunneling be used in the loop.

# CONTRACTS AND CAPITAL

ENGINEERING construction awards for the week total $42,134,000, a 4 per cent decrease from last week, and 13 per cent below the volume for the corresponding 1938 week.

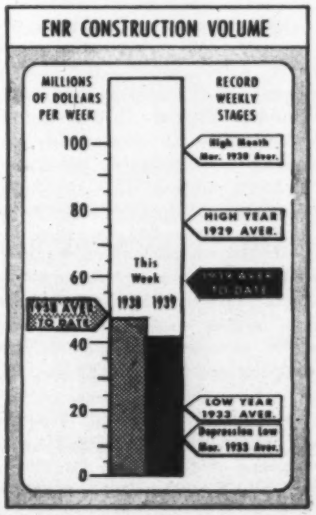
The current week's total brings the cumulative volume for the year to $1,738,693,000, 18 per cent above the $1,478,264,000 reported for the 30-week period last year.

Public construction for the week tops the preceding week by 12 per cent, but is 7 per cent below the 1938 week. Private awards are 35 and 30 per cent lower, respectively, than a week ago and a year ago.

In the classified construction groups, gains over last week are in bridges, public buildings, earthwork and drainage, and unclassified construction. Increases over the corresponding week last year are in industrial buildings, public buildings, earthwork and drainage, and streets and roads.

New capital for construction purposes for the week, $19,027,000, is 83 per cent below the volume for the 1938 week when PWA allotments for federal and municipal construction swelled the total. The current week's financing is made up of $6,846,000 in corporate security issues, $6,468,000 in state and municipal bonds, and $5,713,000 in REA loans.

New construction financing for the year to date, $1,769,120,000, is 29 per cent lower than in the 30-week period last year.




### CONTRACTS

(Thousands of dollars)

| | Week Ending July 28 1938 | July 20 1939 | July 27 1939 |
|---|---|---|---|
| Federal | $2,897 | $1,875 | $6,529 |
| State & Municipal | 32,264 | 27,240 | 26,150 |
| Total public | $35,161 | $29,115 | $32,679 |
| Total private | 13,555 | 14,668 | 9,455 |
| TOTALS | $48,716 | $43,783 | $42,134 |
| Cumulative 1939 (30 weeks) | | | $1,738,693 |
| Cumulative 1938 (30 weeks) | | | $1,478,264 |

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

### NEW PRODUCTIVE CAPITAL

| | Cumulative 1938 30 Wk. | 1939 30 Wk. |
|---|---|---|
| NON-FEDERAL | $1,337,222 | $947,583 |
| Corporate securities | 201,038 | 141,201 |
| State & Mun. bonds | 382,122 | 377,109 |
| R.E.A. loans | 11,629 | 89,445 |
| R.F.C. loans | 64,891 | 3,419 |
| P.W.A. allotments | 321,514 | ..... |
| U.S.H.A. loans | 154,528 | 146,419 |
| Fed. Aid—Highways | 201,500 | 190,000 |
| FEDERAL | $1,150,180 | $821,527 |
| TOTAL CAPITAL | $2,487,402 | $1,769,120 |

### FHA MORTGAGES

| | Week Ending July 23 1938 | July 15 1939 | July 22 1939 |
|---|---|---|---|
| Selected for appraisal | $22,016 | $22,479 | $21,500* |
| Cumulative 1939 (29 weeks) | | | $660,649* |
| Cumulative 1938 (30 weeks) | | | $531,971 |

*Subject to revision.

### ENR INDEX NUMBERS

| Index Base | | 1913 | 1926 |
|---|---|---|---|
| Construction Cost | July | 234.94 | 112.94 |
| Building Cost | July | 196.78 | 106.37 |
| Volume | June | 193 | 84 |

# MEN AND JOBS

F. M. EAGLESON has been appointed county engineer of Dufferin County, Ont., succeeding J. H. BEATTY who has retired.

BERNARD S. MILLER, July 19, was appointed state administrator for the New Jersey division of the National Youth Administration. For the past two years he has been with the NYA and before that for two years was state engineer in New Jersey. He set up the first NYA construction program in that state and started a workshop program.

RAYMOND F. RIEGELMEIER, graduate of Carnegie Institute of Technology, has been appointed traffic engineer for the Pennsylvania highway department. From 1930 to 1935 he was connected with the bureau of traffic planning for the city of Pittsburgh.

ROBERT DORION, graduate of the Montreal Polytechnic School and formerly city engineer of Lachine, Ont., has been appointed city manager at Shawinigan Falls, Que. He succeeds N. J. A. VERMETTE.

J. T. ELLISON has returned to his position as chief engineer and assistant commissioner with the Minnesota state highway department, after a short leave of absence. Ellison has served under all the commissioners since the organization of the Minnesota department.

COL. H. J. WILD, U. S. Army district engineer at Seattle for the last 5 years, will retire from active service Dec. 1. He will be succeeded by LIEUT. COL. L. E. ATKINS, chief of the supply section in the Chief of Engineer's office at Washington. Colonel Wild for a time was professor of military science and tactics at the Missouri School of Mines and also chief of the supply section of the Chief of Engineer's office. During his 5 years at Seattle, he has supervised millions of dollars of rivers and harbors work in northern Washington, Idaho and Alaska, including reconstruction of the Grays Harbor south jetty. He has aided in the preparation of plans for the $4,000,000 Mud Mountain dam, now ready for bids.

S. R. WESTON, chief engineer of the New Brunswick Power Commission, has resigned to accept a position as chief engineer of the Public Utilities Commission of the Province of British Columbia. G. A. VANDERVOORT has been named as his successor, and HERBERT PHILLIPS has been appointed engineer of construction.

L. T. MCGEE has been appointed city engineer of Enid, Okla., succeeding R. T. Hopper who resigned to accept an appointment with the Bureau of Yards and Docks.

LIEUT. CHARLES A. ARMSTRONG, recently stationed at Pine Bluff in connection with levee construction, has been assigned as assistant to the district engineer at Conchas Dam, New Mexico.

JOSEPH T. LANTRY, civil engineer, has been named purchasing agent for Tulsa, Okla.

ERNEST GOHIER, a consulting engineer, has been named director-general of the Quebec Roads Department. He had acted as consulting engineer for the Montreal Metropolitan Commission, the Harbors of Quebec, Three Rivers and Chicoutimi. At present he is vice-chairman of the Montreal section of the Engineering Institute of Canada.

IRA E. COX, engineer and senior administrative assistant in the Great Lakes division of Army Engineers, retired July 14 after 32 years of service in the Cleveland office.

C. W. NICHOLS, SR., has been chosen president of the Nichols Engineering & Research Corp. of New York City.

FRED D. DIEHL, chief engineer in charge of the North Dakota Power and Light Co., division of Bismark, has accepted a position as resident engineer for McPherson, Kan.

A. D. BISHOP of Montpelier, WALTER BELDING of Rutland, and R. E. BECK of Royalton are the three members composing Vermont's new state board of registration for professional engineers.

EVERRETT CLAUNTS has been named to succeed C. C. Featherston, as maintenance superintendent for Muskogee, Wagoner and Okmulgee counties in Oklahoma. BENNIE CLARK succeeded J. B. Sylender as maintenance superintendent in Pittsburgh, Haskell and McIntosh counties. The appointments were effective July 17.

J. M. MEANY, mechanical engineer of Portland, F. H. MURPHY, electrical engineer of Portland, and Leverett Davis, mining engineer of Cornucopia are the new members of the Oregon Board of Engineering Examiners. S. H. GRAFF, mechanical engineer of Corvallis, was elected president, succeeding F. D. WEBER who is retiring after being a member of the board for 20 years. J. W. CUNNINGHAM, civil engineer of Portland, was elected vice-president, and A. B. CARTER, mining engineer of Portland, was reappointed secretary.

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## *Correction*

On page 80 of the June 22 issue of *ENR* it was incorrectly stated that Rolf Eliassen, who has been made an assistant professor of sanitary engineering at Armour Institute of Technology, had received his doctor's degree in sanitary engineering from Harvard University. This degree was presented by the Massachusetts Institute of Technology.

# MEETINGS

FIFTH International Conference on Timber Utilization, Zurich, Switzerland, Aug. 29–31.

REGIONAL AND LOCAL

AMERICAN SOCIETY OF CIVIL ENGINEERS, District No. 7 Association, Houghton, Mich., Aug. 24-26.

NORTH CAROLINA SOCIETY OF ENGINEERS, summer convention, Asheville, N. C., Aug. 4–5.

MINNESOTA Section, A.W.W.A., Duluth, Aug. 24-25.

NEW ENGLAND WATER WORKS ASSOCIATION, annual convention, Hotel Windsor, Montreal, Sept. 12-15.

SOUTH DAKOTA WATER AND SEWAGE WORKS CONFERENCE, fifth annual meeting, Rapid City, Sept. 14-15.

ELECTIONS AND ACTIVITIES

THE WASHINGTON STATE ASSOCIATION OF COUNTY ENGINEERS has chosen Burwell Bantz, Lewis county road engineer, as president; Donald C. Black, Chelan county, vice-president; and J. H. Redmond, Whitman county, secretary-treasurer.

THE PHILADELPHIA SECTION of the American Society of Civil Engineers, has elected the following officers: Scott B. Lilly, president; Charles A. Howland, vice-president; Reginald C. Scott, secretary-treasurer; Lester L. Lessig and Frank G. Deker, directors.

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## *Memphis Sewer Completed*

Memphis, Tenn.'s new $2,000,000 interceptor sewer was completed last week. It is 14,400 ft. long, 7x8 ft. in size, and diverts a large per cent of the city's sanitary sewage to the Mississippi River. Work at depths from 50 to 90 feet below street level made unusual pressures necessary. Four days were needed to remove the bulkheads at the outfall when the work was completed.

## Missouri Truck Fees Shared by St. Louis

St. Louis will receive $43,155 as its share of payments by common carriers for permits issued by the Missouri State Public Service Commission in 1937 and 1938. According to Director of Streets and Sewers Frank J. McDevitt, this is in spite of the fact that the city of St. Louis has not enforced the Missouri truck law requiring the permit. Total fees paid to the state by trucks and buses in the two years were $1,013,373. Of this sum the city will receive 4 per cent.

It has been announced that immediate steps will be taken to enforce the law in the city.

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## Oklahoma Highway Bids Under Engineer's Estimate

Oklahoma contractors hit a new low in road construction prices recently, when the highway commission opened bids on several projects. Low bids went $203,293 under the total engineers' estimate of $1,101,461, totaling $898,168.

A new low on asphalt concrete paving cost was indicated with a bid of $10,700 a mile on a project in Kiowa county. The low bid on a grading and drainage project in Bryan county on U. S. Highway No. 70 was $36,000 below the estimate. It was the first letting of contracts since last Autumn. Another letting was held July 18 and a third is scheduled for August 15.

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## Refuge Harbors Studied On Great Lakes

Surveys to determine the cost and advisability of providing harbors of refuge for light-draft vessels on the Great Lakes are recommended at 31 localities in a report by the U. S. Division Engineer at Cleveland. The report was authorized by the 1937 Rivers and Harbor Act.

Twelve of the localities at which it is recommended surveys be made are on Lake Superior, seven on Michigan, seven on Huron, three on Erie, and two on Ontario.

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## Typhoid Compensable Pennsylvania Holds

In a precedent-setting decision, the Pennsylvania Labor Relations Board awarded $3,000 compensation for typhoid fever allegedly contracted from drinking water on a road construction job. Internal diseases have not hitherto been considered compensable in Pennsylvania.

The case was brought against H. W. Shaull & Sons of Mechanicsburg, the contractor, and the Pennsylvania Manufacturers Casualty Insurance Co. by the widow of Simon Loudon, who died of typhoid.

**NEW VANCOUVER HOTEL**

OPENED last month at Vancouver, B. C., was this $12,000,000 hotel, one of the chain of Canadian National Ry. hotels. Work was started on the building in the late '20s but was stopped during the depression and was not resumed on a full scale until 1938. The delay made possible the introduction of air conditioning for the main public areas. The hotel is being operated jointly by the Canadian National and Canadian Pacific Railways.

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## Illinois to Extend Use Of Curve Speed Signs

As a result of successful experience with signs indicating the maximum safe speed at all curves on U. S. Highways 40 and 36, the Illinois highway department has decided to install such critical speed signs at curves on all major state highways. The signs were first installed late last summer on U. S. Highway 40 and later on U. S. 36. The signs are white with 6-in. reflectorized numerals indicating the safe speeds in multiples of five, ranging from 15 to 50 miles per hour. Curves with safe speeds in excess of 50 miles per hour are not marked.

Speeds at each curve are first computed mathematically and then checked by drivers operating cars which are equipped with airplane bank and turn indicators.

## Detroit Incinerator Again Operating

**Garbage collection reaches all-time high, making use of Northwest incinerator imperative.**

The Northwest incinerator in Detroit, Mich., closed for the past several months, was reopened early this month. This action is in accord with recommendations reported recently by a special committee appointed to study the complaints filed by residents of the neighborhood, who were responsible for the original shutdown.

Resumption of operation of the plant was made imperative, according to Henry E. Beyster, commissioner of public works, because garbage collection this month reached an all-time peak of 844 tons. The other three Detroit incinerators have been operated without interruption since they were completed.

Previous to 1938, Beyster informs *Engineering News-Record*, Detroit treated its garbage by reduction, and the city built a number of incinerators with PWA aid. Early in 1938 the city's contract with the reduction company ran out, while litigation and protests from nearby residents prevented opening of all the incinerators. During 1938, therefore, it was necessary to bury a part of the city's garbage; this practice was stopped early this year, and it is not planned to resume it unless garbage collection exceeds incinerator capacity. All of the city's noncombustible refuse has been and is now being buried.

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## Federal Aid Projects Released in Arkansas

Arkansas federal aid projects, which have been held up pending settlement of questions raised by the U. S. Bureau of Public Roads (*ENR* June 8, 1939, p. 65), were released by the state highway department when the U. S. B. P. R. accepted the state's report on the situation.

Arkansas has been receiving federal aid without matching under a provision of the 1938 federal-aid act which permits such an arrangement if the state is unable to put up money for highway work. The Bureau of Public Roads questioned whether this was the case when a number of WPA highway projects sponsored by the state were brought to its attention. The state contended, however, that its contribution took the form only of contributing the use of state highway department equipment.

# CONSTRUCTION REPORTS

Compiled by BUSINESS NEWS DEPARTMENT
Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, MANAGER
(Daily service also available—Write for details)

**Projects—By Size**

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

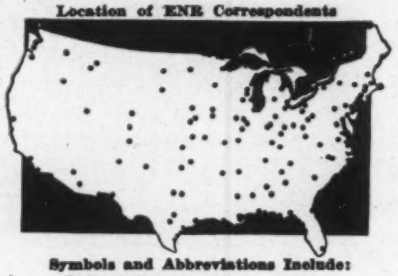
**Classes of Construction**
(Named in order of Listing)

| | |
|---|---|
| Water Supply | Unclassified |
| Sewers, Waste Disposal | Materials, Equipment |
| Bridges, Grade Cross'gs | Public Buildings |
| Streets & Roads | Commercial Buildings |
| Earthwork, Waterways | Industrial Buildings |

**Stages Reported**

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS ($500,000 projects and over);
CONTRACTS AWARDED

**Location of ENR Correspondents**



**Symbols and Abbreviations Include:**

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD McGraw-Hill Construction Daily

## WATER SUPPLY

### PROPOSED WORK

**Fla., Lake Worth**—Water purification plant. Over $15,000. C. F. Wright, City Hall, engr. T. B. Henry, Cleveland, O., consult. engr.

**N. Y., Binghamton** — City Council, City Hall, installing complete water facilities throughout municipal golf course. $15,000. J. A. Giles, City Hall, engr.

**N. Y., Elmira**—Water Bd., City Hall, installing 4,150 to 6,000 lin. ft. c.i. watermains, hydrants, Southport. Over $20,000.

**O., Cincinnati** — Rein.-con. water tank, $175,000. Kruckemeyer & Strong, Carew Tower, archt. W. H. Hewett, 549 W. Washington St., Chicago, Ill., engr.

**Washington** — Skagit Public Utility Dist., Mount Vernon, imprv. water sys. just purchased by P. Utility Dist., steel filter tank, etc., at Mount Vernon; c.i. pipe, meters, Burlington; 100,000 gal. steel storage tank, 378 meters at Sedro-Wooley, creosoted wood stave pipe, galv. iron pipe for rural extens. Over $15,000.

**Wash., Goldendale**—Water sys. and sewage disposal plant. $62,000. Engineer to be retained.

**Wash., Marysville**—Replacement existing 8 in. water supply lines with 9 mi. 12 in. steel pipe from headworks to city. Bond issue approved. $100,000. Sievers & Deucy, 3124 Paine St., Everett, engr.

**Wash., Olympia**—Installing 15 mi. c.i. and transite watermains. $193,741. WPA. C. H. Williams, City Hall, engr.

**Alta., Edmonton**—Water softening plant. Over $30,000. W. R. Mount, City Hall, WW engr.

**Ont., Aylmer**—J. Foy, town clk., bids soon, laying pipe line from well to town. $20,000. R. R. Rollson, Town Hall, engr. CD 7/12.

**Ont., Conniston**—Neelon Twp., D. A. Olivier, clk., plans waterworks $45,000. James, Redfern & Proctor, 36 Toronto St., Toronto, engrs.

**Ont., Lambeth**—V. Kirk, municipality clk., installing waterworks, etc., in Westminster Twp. $25,000. F. A. Bell, County Bldg., St. Thomas, engr.

**Ont., Simcoe**—Dr. Boyd, chn. P. Utilities Comn., constructing and equipping pump plant, Chapel St., 7,000 gpm capacity.

**Ont., Tillsonburg**—J. Teckal, supt. Municipality, bids in August, water well pump and installation. $17,000. P. Utilities Comn., Tillsonburg, engr.

**Ont., Wallaceburg** — Overhauling, imprv. sects. present sys. and make extensions into new southern suburban sect. $125,000. H. A. Craig, Town Hall, engr.

**Ont., Welland**—J. D. Watt, clk., exten. water plant and system imprvs. $50,000. C. L. Coulson, Town Hall, engr.

**Que., Windsor Mills**—A. Lagarse, municipality clk., waterworks addn. $35,000. C. P. Dubuc, 98 Melbourne St., Sherbrooke, engr.

**Que., Rimouski**—Municipality, G. D'Anteuil, clk., 22,780 ft. 14 in. water intake pipe, etc. extension to reservoir. $114,000. M. Pinard, Town Hall, engr.

### BIDS ASKED

*Bids Asked August 1*

**Ga., Milledgeville**—State Hospital Auth., Atlanta, 200,000 gal. elevated tank for hospital. $20,000. Robert & Co., Bona Allen Bldg., Atlanta, engrs.

**N. C., Drexel**—Filteration plant for WW imprvs. $20,000. PWA. W. K. Dickson, 119 Circle Ave., Charlotte, engr.

*Bids Asked August 3*

**Mass., Boston**—at office Metropolitan Dist. Water Supply Comn., 20 Somerset St., R. Nelson Milt. secy., Contr. 83, constructing Spot Pond By-Pass, Stoneham and Medford. Approx. $160,000. PWA. K. R. Kennison, ch. engr. of Comn.; adv. ENR 7/20.

*Bids Asked August 15*

**La., Pineville**—Mayor and Bd. Aldermen, drilling, developing water well, complete with electrically driven deep well centrifugal pump. $15,000. Swanson-McGraw-Hooper, Balter Bldg., New Orleans, engrs.

*Bids Asked August 22*

**†W. Va., Huntington**—Veterans' Administration, Arlington Bldg., Wash., D. C., 500,000 gal. concrete water reservoir at Veterans' Administration Facility.

*Bids Asked*

**Alta., Red Deer**—Bids this month, equipment for gravity filtration plant. Hadden & Miles, Calgary, engrs.

### LOW BIDDERS

★**O., Toledo**—W. F. Harris, dir. Pub. Serv., 210 Safety Bldg., July 12, water intake conduit and crib for Lake Erie Water Project, Contr. 4, from Merritt, Chapman & Scott, 17 Battery Pl., New York, N. Y., Alternates (1) $1,847,341 (2) $1,834,214; from C. B. Moon Co., 8700 Kinsman Rd., Cleveland. Alternate (3) $1,812,659. PWA. CD 6/13—ENR 6/15.

### CONTRACTS AWARDED

**Calif., San Francisco**—P. Utilities Comn., City Hall, laying 6 in. c.i. watermains, Randolph St., to San Francisco Water Dpt., 425 Mason St. **$1,869.** City furnishing pipe and fittings. Bids 7/13. CD 7/5.

**Calif., Walnut Park**—Walnut Park Mutual Water Co., 7216 Seville Ave., furnishing, laying c.i. watermains, to F. Weber, 540 W. 3 St., Downey, **$10,120.** Bids 7/11. CD 6/30.

**Fla., Haines City**—Contr. 3, Unit C, WW distr., to Boyce Co., Clearwater, **$8,642. PWA.** Bids 5/23, awarded 5/23.

**Idaho, Midvale**—Water sys., to Hartenbower Bros., Caldwell, **$21,916.** Bids 6/12. CD 6/2.

**N. J., Jersey City**—Water lines to increase fire protection, 16th and Marceles Sts. **WPA. $15,560.** T. E. Lynch, 1 Newark Ave., WPA and owner's engr. CD 5/25—ENR 6/1.

**N. Y., Binghamton**—Constructing 6,400 lin. ft. c.i. watermains in connection with WW rehabilitation project. **WPA. $50,000. Maturity soon.** J. A. Giles, city engr.

**N. Y., Binghamton**—Bd. Contr. & Supply, Municipal Bldg., filter well and superstructure, to Layne New York Corp., 92 Liberty St., New York, **$31,000.** Bids 5/22. CD 5/15—ENR 5/18.

**N. Y., Syracuse**—Dpt. Water, City Hall, changes in c.i. mains in Renwick and Eastern Raynor Ave., own forces. Over **$25,000.** Dpt. Water, 30 in. c.i. pipe, to R. D. Wood Co., 400 Chestnut St., Phila., Pa., **$12,900*****; 6- to 24-in. c.i. pipe, to Central Fdry. Co., 36-4 Ave., New York, **$6,157*****galv. iron culvert pipe to Lane Pipe Corp., Bath, **$1,488.** Grand total $20,545. CD 2/24—ENR 3/9.

**N. C., Winterville**—W. L. Hunsucker, mayor, water softening and iron removal sys., Contr. 5, to Permutit Co., 330 W. 42 St., New York, N. Y. **$1,990. PWA.** Bids 7/6, awarded 7/14. CD 6/22—ENR 6/29.

**S. C., Spartanburg**—Laying 20 in. pipe for watermain, to Boyle Road & Bridge Co., Sumter, **$16,676;** pipe, to Dixie Culvert Co., Forsyth Bldg., Atlanta, Ga., **$27,175. PWA.** Bids 7/11. CD 6/29—ENR 7/6.

**Tex., Hamlin** — J. L. Culberson, mayor, Contr. 4, filtration plant complete, to Harry Eaton, Tyler, **$24,901.** CD 6/27—ENR 6/29.

**Wash., Alderwood Manor**—Alderwood Water Dist., transite pressure pipe for water sys. to Pacific Water Works Supply Co., Atlantic St. Dock, Seattle, **$17,952.** Bids 6/19.

**Wash., Pasadena Park**—Water sys. replacements, extens., new flumes, **WPA. $50,000. $25,000** bonds voted.

**Wash., Renton**—Water Dist. 58, transite pipe for water sys., to Pacific Waterworks Supply, Atlantic St. Dock, Seattle, **$22,066.** Parker & Hill, Smith Tower, Seattle, engrs.

**Wash., Seattle**—Water Dist. 17, replacing mile of mains, 4- to 8-in. pipe, filtration plant and pump. equip. at Hunts Point. **WPA. $30,000.** Parker & Hill, Smith Tower, engrs.

**Alta., Vegreville**—Imprv. water sys., 13,000 ft. c.i. pipe line, to International Water Supply Co., Ltd., London, Ont. Est. **$15,000.** Awarded 7/10.

**B. C., Port Alberni**—Fill on water pipe line to China Creek, to G. W. Ledingham, 340 E. 8 St., Vancouver, **$5,400;** 3 mi. 16 in. welded steel pipe, to Vancouver Eng. Wks. Ltd., 519 6th Ave. W., Vancouver, **$39,535.** Est. $40,000. H. S. Fowlie, Town Hall, engr.

**Que., Drummondsville**—Watermains and hydrants, day labor. **$20,000.** R. Morissette, Town Hall, engr.

## SEWERS, WASTE DISPOSAL

### PROPOSED WORK

★**Calif., Los Angeles**—Constructing outfall sewer, $9,500,000; treatment plant at Hyperion, $6,000,000; submarine outfall, $1,000,000 and repairs to existing outfall, $1,000,000. Project being studied by City Eng. Dpt. H. G. Smith, City Hall, sewer design engr.

**Ind., Ligonier**—Preliminary plans sewage disposal plant and sewerage sys. $90,000. Peck & Pheips, Dickman Bldg., Michigan City, consult. engrs.

**Ind., New Haven**—V. C. Tustison, town clk., sewage treatment plant and interceptor sewer, etc. Gottschalk & Zurbuch, 622½ S. Calhoun St., Ft. Wayne, consult. engrs.

**Mo., Hannibal**—Sewer sump-pump project to take care of situation created by construction of lock and dam on Mississippi River at Saverton. $23,400 allotted by Federal Government.

**N. J., Kearny**—Storm water sewers, etc. Stafford Pl. and William St. $33,518. WPA. T. E. Lynch, 1 Newark Ave., Jersey City. WPA and owner's engr.

**O., Covington**—Rejected bids 7/10, sewage disposal plant. $50,000. Project postponed. CD 6/27—ENR 6/29.

**Pa., South Williamsport** — Boro. sanitary sewers Sidney, S. Market Sts., W. Southern, W. Mountain, E. Southern and Whitford Aves. Over $35,000. M. Lincoln Smith, boro engr.

**Pa., Williamsport**—Storm water conduit to enclose east branch of Grafius Run from Blooming Grove Rd. to Freedom Rd. $25,000. L. Mussina, city engr. B. C. Houck, city clk.

**Tex., Brownsville**—R. B. Renfro, mayor, 42,500 lin. ft. vitr. and concrete storm sewers. $121,248. J. O. Kelley, city engr.

**Tex., Floresville**—Vitr. clay sanitary sewer, collecting lines, disposal plant. $48,000. Bonds voted.

**Wash., Oak Harbor**—Sewerage sys. $29,000 WPA allot. sought.

**Wash., Orting**—Sanitary sewers. $100,000. WPA.

**Ont., Conniston**—Neelon Twp., D. A. Olivier, clk., installing sewage disposal sys. $60,000. James, Redfern & Proctor, 36 Toronto St., Toronto, engrs.

**B. C., Vancouver**—Sewers, various streets. $100,000. C. Breckenridge, City Hall, engr.

# CONTRACT UNIT PRICES

*What contractors are bidding on different kinds of construction work*

## LEVEE GATE WORK, GEORGIA

OWNER: City of Augusta, Ga.; bids were taken by the U. S. Engineer Office, Savannah, Col. R. F. Fowler, district engineer.

PROJECT: Raising and strengthening six existing gate structures in the levee on the Savannah River at Augusta. Five of the structures are of concrete construction and the other of steel sheet piling. One of the concrete structures is equipped with steel miter gates, is 18 ft. high and 196.5 ft. long. This structure will be raised 12 ft. and strengthened, and the present gates replaced with new vertical lift gates and new operating machinery. The other four concrete structures vary in height from 30 to 51.5 ft., and in length from 54 to 79 ft., and are equipped with vertical lift gates. The height of these structures will be increased 2.75 to 5.0 ft. and the structures strengthened, the gates repaired and new operating machinery installed. The remaining structure consists of two concrete wing walls flanking an opening through the levee, about 21 ft. wide and 5 ft. high, which during flood stages is closed by stop logs. This structure will be entirely replaced with steel sheet pile wing walls which will be about 7 ft. higher than the present concrete walls. New stop logs, built up of steel C B sections and creosoted timber, will be provided.

CONDITIONS: Minimum labor rates are as follows: skilled, $1.00 per hr.; semi-skilled, 65c. per hr.; common, 40c. per hr.

BIDS: Six bids were received June 6, 1939, ranging from the contract low of $229,407 to $268,244.

LOW BIDDERS:

1. Wannamaker & Wells, Inc., Orangeburg, S. C. (contract) ..... $229,407
2A. Wannamaker & Wells, Inc., (items 1, 5 and 6) ..... 89,044
2B. W. F. Scott & Co., Thomasville, Ga. (items 2, 3 and 4) ..... 148,279
3. W. F. Scott & Co. ..... 233,299

ITEM No. 1

| Item | Quan. | Unit Prices (1) | (2a) | (3) |
|---|---|---|---|---|
| 1. Conc. Cl. "A" | 505 c. y. | $18.00 | $20.00 | $17.70 |
| 2. Conc. Cl. "B" | 46 c. y. | 13.00 | 15.00 | 17.70 |
| 3. Reinf | 16,616 lb. | .06 | .06 | .03 |
| 4. Piles steel sheet | 1,071 s. f. | 1.20 | 1.20 | 1.23 |
| 5. Gate vertical lift | L.S. | 7,500.00 | 7,500.00 | 6,100.00 |
| 6. Floor stands, etc | L.S. | 15,000.00 | 15,000.00 | 13,750.00 |
| 7. Hand rail | L.S. | 500.00 | 500.00 | 382.45 |
| 8. Steel struct | 112,688 lb. | .07 | .07 | .0632 |
| 9. Drill. dowel holes | 726 l. f. | .25 | .25 | .20 |
| 10. Dress. exist. conc | 250 s. f. | .10 | .10 | .10 |
| 11. Fill earth | 3,800 c. y. | .30 | .30 | .30 |
| 12. Excav. common | 120 c. y. | 2.00 | 2.00 | 1.00 |
| 13. Road surf | 2,150 c. y. | .30 | .30 | 1.00 |
| 14. Cofferdam unwatered | 9 bays | 300.00 | 300.00 | 650.00 |
| 15. Excav. rock | 15 c. y. | 5.00 | 5.00 | 5.00 |
| 16. Grouting found | 5 c. y. | 2.00 | 2.00 | 4.50 |
| 17. Culverts under dike | L.S. | 150.00 | 150.00 | 130.00 |
| 18. Timber — 19,000 | M. b.m. | .11 | .11 | .09 |
| 19. Removal of parts of existing structure | L.S. | 1,000.00 | 1,000.00 | 3 000.00 |
| 20. Bolts | 3,567 lb. | .10 | .10 | .20 |
| 21. Lead anchors | 782 lb. | .25 | .25 | .20 |

ITEM No. 2

| Item | Quan. | Unit Prices (1) | (2b) | (3) |
|---|---|---|---|---|
| 1. Conc. Cl "A" | 977 c. y. | $18.00 | $17.90 | $17.90 |
| 2. Conc. Cl. "B" | 302 c. y. | 13.00 | 17.90 | 17.90 |
| 3. Reinf | 39,705 lb. | .06 | .03 | .04 |
| 4. Piling steel sheet | 2,056 s. f. | 1.20 | 1.23 | 1.23 |
| 5. Floor stands, etc | L.S. | 5,500.00 | 5,030.85 | 5,030.85 |
| 6. Hand rail | L.S. | 280.00 | 318.29 | 325.00 |
| 7. Drill dowel holes | 462 l. f. | .25 | .20 | .29 |
| 8. Fill earth | 2,100 c. y. | .30 | 1.00 | .30 |
| 9. Excav. common | 2,800 c. y. | .60 | 1.00 | 1.00 |
| 10. Cofferdam | 65 l. f. | 90.00 | 70.00 | 70.00 |
| 11. Excav. rock | 294 c. y | 5.00 | 2.00 | 2.00 |
| 12. Grouting foundation | 5 c. f. | 2.00 | 4.50 | 4.50 |
| 13. Drainage system | L.S. | 100.00 | 400.00 | 400.00 |
| 14. Stop log recesses | L.S. | 300.00 | 227.00 | 227.00 |
| 15. Demolishing existing concrete | 160 c. y. | 5.00 | 5.00 | 5.00 |
| 16. Gunite | 18,000 s. f. | .25 | .20 | .20 |
| 17. Channelling | 550 s. f. | .50 | 1.20 | 1.20 |
| 18. Steel struct | 3,708 lb. | .07 | .0551 | .0551 |
| 19. Bolts | 455 lb. | .10 | .20 | .20 |
| 20. Lead anchors | 56 lb. | .25 | .20 | .20 |

ITEM No. 3

| Item | Quan. | Unit Prices (1) | (2b) | (3) |
|---|---|---|---|---|
| 1. Conc. Cl. "A" | 704 c. y. | $18.00 | $17.90 | $17.90 |
| 2. Conc. Cl. "B" | 208 c. y. | 13.00 | 17.90 | 17.90 |
| 3. Reinf | 25,884 lb. | .03 | .04 | .04 |
| 4. Piling steel sheet | 2,034 s. f. | 1.20 | 1.23 | 1.23 |
| 5. Floor stands, etc | L.S. | 4,500.00 | 4,306.00 | 4 306.00 |
| 6. Hand rail | L.S. | 240.00 | 300.00 | 275.00 |
| 7. Drilling dowel holds | 401 l. f. | .25 | .20 | .20 |
| 8. Fill earth | 1,000 c. y. | .30 | .30 | .30 |
| 9. Excav. common | 2,900 c. y. | 1.00 | 1.00 | 1.00 |
| 10. Cofferdam | 54 l. f. | 90.00 | 70.00 | 70.00 |
| 11. Excav. rock | 178 c. y. | 5.00 | 2.00 | 2.00 |
| 12. Grouting found | 5 c. f. | 2.00 | 4.50 | 4.50 |
| 13. Drainage system | L.S. | 100.00 | 300.00 | 300.00 |
| 14. Stop log recesses | L.S. | 300.00 | 192.00 | 200.00 |
| 15. Demolishing exist. conc | 117 c. y. | 5.00 | 5.00 | 5.00 |
| 16. Gunite | 15,000 s. f. | .25 | .20 | .20 |
| 17. Channelling | 375 s. f. | .50 | 1.20 | 1.20 |
| 18. Steel struct | 3,626 lb. | .07 | .0551 | .0551 |
| 19. Bolts | 426 lb. | .10 | .20 | .20 |
| 20. Lead anchors | 48 lb. | .25 | .20 | .20 |

ITEM No. 4

| Item | Quan. | Unit Prices (1) | (2b) | (3) |
|---|---|---|---|---|
| 1. Conc. Cl. "A" | 805 c. y. | $18.00 | $17.90 | $15.90 |
| 2. Conc. Cl. "B" | 501 c. y. | 13.00 | 17.90 | 15.90 |
| 3. Reinf | 30,118 lb. | .06 | .04 | .04 |
| 4. Piling, steel sheet | 1,989 s. f. | 1.20 | 1.23 | 1.23 |
| 5. Flour stands, etc | L.S. | 8,700.00 | 7,500.00 | 7,114.20 |
| 6. Hand rail | L.S. | 300.00 | 350.00 | 350.00 |
| 7. Drill. dowel holes | 479 l. f. | .25 | .20 | .20 |
| 8. Fill, earth | 3,700 c. y. | .30 | .50 | .50 |
| 9. Excav. common | 2,245 c. y. | .60 | 1.00 | 1.00 |
| 10. Cofferdam | 79 l. f. | 90.00 | 70.00 | 70.00 |
| 11. Excav. rock | 240 c. y. | 5.00 | 2.00 | 2.00 |
| 12. Grout. found | 5 c. f. | 2.00 | 4.50 | 4.50 |
| 13. Drainage system | L.S. | 200.00 | 500.00 | 500.00 |
| 14. Stop log recesses | L.S. | 300.00 | 200.00 | 175.00 |
| 15. Demolishing existing concrete | 143 c. y. | 5.00 | 5.00 | 5.00 |
| 16. Rip-rap | 1,725 tons | 3.00 | 4.50 | 4.50 |
| 17. Derrick stone | 600 tons | 3.00 | 4.50 | 4.50 |
| 18. Gunite | 27,000 s. f. | .25 | .20 | .20 |
| 19. Channelling | 625 s. f. | .50 | 1.20 | 1.20 |
| 20. Steel, struct | 3,461 lb. | .07 | .0551 | .0551 |
| 21 Bolts | 513 lb. | .10 | .20 | .20 |
| 22. Lead anchors | 92 lb. | .25 | .20 | .20 |

ITEM No. 5

| Item | Quan. | Unit Prices (1) | (2a) | (3) |
|---|---|---|---|---|
| 1. Piling, steel sheet | 4,090 s. f. | $1.50 | $1.60 | $1.50 |
| 2. Fill, earth | 1,045 c. y. | .30 | .30 | .50 |
| 3. Remov. exist. wall | L.S. | 300.00 | 300.00 | 300.00 |
| 4. Rip-rap | 100 tons | 3.50 | 3.50 | 4.50 |
| 5. Stop logs | 15 ea. | 75.00 | 75.00 | 124.00 |
| 6. Accessories stop log storage | L.S. | 350.00 | 350.00 | 250.00 |
| 7. Asphalt seal | L.S. | 300.00 | 300.00 | 200.00 |
| 8. Cement for grout | 60 c. f. | 2.00 | 2.00 | 4.50 |

ITEM No. 6

| Item | Quan. | Unit Prices (1) | (2a) | (3) |
|---|---|---|---|---|
| 1. Conc. Cl. "A" | 102 c. y. | $20.00 | $22.00 | $17.90 |
| 2. Steel, reinf | 11,264 lb. | .06 | .06 | .04 |
| 3. Piling, steel sheet | 750 s. f. | 1.20 | 1.20 | 1.33 |
| 4. Steel, struct | 4,364 lb. | .08 | .08 | .0875 |
| 5. Drilling dowel holes | 349 l. f. | .25 | .25 | .20 |
| 6. Dressing exist. conc | 450 s. f. | .10 | .10 | .10 |
| 7. Fill, earth | 1,120 c. y. | .30 | .30 | .40 |
| 8. Excav., common | 500 c. y. | .60 | .60 | 1.00 |
| 9. Cofferdam | 65 l. f. | 60.00 | 60.00 | 100.00 |
| 10. Timber | 11,300 M. b.m. | .11 | .11 | .09 |
| 11. Removal of parts of existing structure | L.S. | 200.00 | 200.00 | 1,250.00 |
| 12. Stop log recesses | L.S. | 300.00 | 300.00 | 130.00 |
| 13. Piles, round timber | 224 l. f. | 1.50 | 1.50 | 1.20 |
| 14. Steel, corrosion resisting | 670 lb. | .12 | .12 | 1.00 |
| 15. Automatic gates — 84-in. dia | 6 ea. | 700.00 | 700.00 | 430.75 |
| 16. Trash rack and supports | L.S. | 1,500.00 | 1,500.00 | 1,583.00 |
| 17. Reconditioning existing gates and machinery | L.S. | 200.00 | 200.00 | 2,000.00 |
| 18. Gunite | 12,000 s. f. | .25 | .25 | .20 |
| 19. Bolts | 1,250 lb. | .10 | .10 | .20 |
| 20. Lead anchors | 398 lb. | .25 | .25 | .20 |

*(Contract Unit Prices continued on page 15)*

Sewers, etc. (Continued)

**Ont., Chatham**—W. Foreman, city clk., sanitary sewer, 12 ft. drain concrete on Prince Arthur Ave. and vitr. clay sewer, Spencer Ave. $25,000. T. M. S. Kingston, Harrison Hall, Chatham, engr.

**Ont., Sudbury**—Will not construct incinerator until 1940. Laurie & Lamb, 132 St. James St., Montreal, Que., engrs. CD 5/17—ENR 5/25.

**BIDS ASKED**

*Bids Asked July 31*

**Mass., Fall River**—T. J. Logan, P. Wks. Comr., rubbish incinerator. $150,000. S. M. Ellsworth, 12 Pearl St., Boston, engr. A. W. Slater, chn. Com. CD 7/18—ENR 7/20.

*Bids Asked August 1*

**Ga., Milledgeville**—State Hospital Auth., Atlanta, sanitary sewers for hospital. $25,000. Robert & Co., Bona Allen Bldg., Atlanta, archts.

**Mo., Springfield**—General contract, aeration tank, grit chambers, power generating equip. at Northwest Plant and gas holder and constructing utility building at Southwest Plant. $400,000. Black & Veatch, 4706 Bway., Kansas City, Mo., engrs. CD 6/13—ENR 6/15.

*Bids Asked August 4*

**Md., Hyattsville** — Washington Suburban Sanitary Comn., Owens Ave., Hyattsville, vitr., c.i. and rein.-con. sewers. $32,000. PWA.

**Mich., Birmingham**—I. F. Hanley, city clk., 5,823 ft. sewers, diversion units. Contr. 4. PWA.

**N. Y., Lockport**—Sewage treatment plant. $217,000. Shoecraft, Drury & McNamee, Ann Arbor, Mich., archts. CD 7/19.

*Bids Asked August 8*

**†Ill., Chanute Field (Rantoul P. O.)**—Con. Q. M., Chanute Field, sewage disposal sys.; adv. ENR 7/27.

*Bids Asked August 11*

**Wis., Wausau** — Contr. 12, eastside storm sewer, Sects. 2 and 5; Contr. 11, sewer pipe for above. PWA. J. Donohue Eng. Co., Sheboygan, engrs.

*Bids Asked August 14*

**R. I., North Providence**—Town, 613 Turks Head Bldg., Providence, Sewer Comn., Town Hall, Contr. 6, 15 mi. lateral sewers. Over $25,000. C. A. Maguire, 613 Turks Head Bldg., Providence, engr.

*Bids Asked August 22*

**N. J., East Rutherford**—Joint Meeting Rutherford, East Rutherford and Carlstadt, at Municipal Bldg., treatment plant and appurtenances, PWA. C. J. Kupper, 409 E. Main St., Bound Brook, consult. engr.; adv. ENR 7/27.

**LOW BIDDERS**

★**Ill., Rock Island**—Sewage treatment plant, from Stark Constr. Co., 118 11th St. S.W., Cedar Rapids, Ia. $518,736. Bids 5/18. CD 7/14.

**CONTRACTS AWARDED**

**Calif., Davis**—Regents of University of California, (1st unit) Campus Drainage sys. for branch of College of Agriculture, to M. Smith, 588-22 St., Oakland, **$6,775.** Bids 7/11. CD 6/23—ENR 6/29.

**Ind., Gary**—Bd. Sanitary Comrs., R. E. Rowley, chn. City Hall, South Side Interceptor Sewer, 2.6 mi. 5 ft. rein.-con., to G. Pontarelli, 4155 Dickinson St., Chicago, Ill. CD 6/2—ENR 6/8. (**Correction** — Contractors name.)

**Md., Baltimore**—Bd. Awards, miscellaneous work at Patapsco Sewage Treatment Works, to Frank Angelozzi & Sons, 123 S. High St., **$106,757.** Bids 7/12. CD 7/5—ENR 7/13.

**Mass., Springfield**—Dpt. Streets & Engineering, C. W. Phillips, supt., Contr. 5, sewage treatment plant, Indian Orchard, to Tuller Constr. Co., 95 Monmouth St., Red Bank, N. J., **$194,749.** Award subject to **PWA** approval. Bids 7/13. CD 6/21—ENR 6/29.

**N. J., Livingston**—Contr. 6, sewage treatment plant, pump. station and sanitary sewers, various streets, to Petrozzello Bros., Inc., 362 Lackawanna Pl., South Orange, **$33,597.** Bids 6/29. CD 6/16—ENR 6/22.

**†N. Y., Bath** — Veterans Administration, Arlington Bldg., Wash., D. C., sewage disposal plant addns., to Wright & Kremers, Inc., Pine and Main Sts., Niagara Falls, **$28,788.** Bids 5/23, awarded 7/6. CD 4/27—ENR 5/4.

**N. Y., Brooklyn**—President Brooklyn Boro, Boro Hall, repairing Pumping Unit 6, Avenue V Pump. Sta., Ave. V and W. 10 St. to Public Plumbing Co., 62-29 79 St., Middle Village, **$9,969.** Bids 5/19. CD 5/11.

**N. Y., Buffalo**—Buffalo Sewer Auth., City Hall, storm water relief sewer, Lamont Pl., Howard Ave. and Prairie and Tonawanda Sts. **WPA. $31,920.**

**O., Lebanon**—Sewage disposal plant, to H. & F. H. Hosea Co., 622 Bway., Cincinnati, **$29,774.** Est. $32,500. CD 7/11—ENR 7/13.

**Okla., Lawton**—Outfall sanitary main sewer to sewage disposal plant, **WPA. $34,103.** R. Lindsay, Old Courthouse, Oklahoma City, engr.

**Wash., Coupeville**—Exten. sewerage sys., **WPA. $23,000.** CD 12/9—ENR 12/15.

**Wis., Fort Atkinson**—Rebuilding sewage treatment plant, to Schroeder & Thiele, Allen Grove, **$16,500.** Bids 7/5. CD 6/22—ENR 6/29.

**Wyo., Sheridan**—Sewers, Sect. 3, to S. F. Ronde, Sheridan, **$14,304**; Sect. 4, to Tony J. Pelesky & Son, Sheridan, **$4,071.** Total est. $290,360. Bids 6/22.

**Que., Drummondville**—Sewer exten. various streets, day labor. $25,000. R. Morissette, Town Hall. engr.

**Sask., Saskatoon**—City Council, comr. A. Leslie, City Hall, paving, sewer exten., grading, park imprvs., day labor. **$200,000.**

## BRIDGES, GRADE CROSSINGS

**PROPOSED WORK**

**Ill., Belleville**—St. Clair Co., substructure for 5 span steel W. F. beam bridge, Sect. 151 B, MFT; furnishing structural steel, Sect. 151 C, MFT; structural steel and superstructure Sect. 151 D, MFT. G. H. Baker, Centennial Bldg., Springfield, state engr. co roads and city streets.

**Ind., Leiters Ford**—Bd. Comrs. Fulton Co., R. W. Shaver, aud., Courthouse, Rochester, rein.-con. bridge over Tippecanoe River, $48,000. Phelps & Peck, 622½ Franklin St., Michigan City, engr.

**Iowa**—State Hy. Comn., Ames, 8 concrete box culverts, extens. S.H. 261 from Newport N. toward Solon, FA 765-B. Johnson Co. F. R. White, ch. engr.

**Iowa**—State Hy. Comn., Ames, 292x22 ft. continuous I-beam bridge, County Trunk Rd. C., northwest of Decorah, FAS 291, Winneshiek Co.; 180x22 ft. continuous I-beam bridge, secondary road from junction to S.H. 207, and U.S. 69 junction of S.H. 206, U.S. 65, FAS 166 A, Warren Co.

**N. Y., Eastchester**—P. Wks. Comn., Westchester Co., County Bldg., White Plains, bids soon, widening Harney Rd. bridge to 80 ft., mostly structural steel construction. $80,000. C. Sells, P. Wks. Comr.

★**O., Mansfield**—Richland Co., underpass at Erie tracks west of city over tracks viaduct at B. & O. R. R. and elimination dangerous curve on W. Fourth St. and Ausdale Ave. $600,000.

**Tex., El Paso**—State Hy. Comn., G. P. Gentry, chn., Austin, bids soon, underpass, approaches on Wyoming St. near Willow St., El Paso Co. $103,000.

**Alta., Edmonton**—Redecking in solid concrete low level bridge. $25,000. A. W. Haddon, City Hall, engr. CD 4/17—ENR 4/20.

**Ont., Fergus**—Canadian Pacific R.R., J. M. R. Fairbairn, ch. engr., Montreal, Que., railway bridge and laying 7 mi. tracks. $55,000. Cost to be borne by Grand Valley Conservation Comn.

**Ont., Prescott**—Canadian Pacific R.R., J. M. R. Fairbairn, ch. engr., Montreal, widening present subway under railroad tracks, Hy. 2. $35,000.

**Quebec**—Province of Quebec, Quebec City, 300x30 ft. steel, bridge over Little Nation River, Plaisance, $5,000, 120x24 ft. rein.-con. bridge over River Borneval, St. Barnabe, $40,000, 300x30 ft. steel, concrete bridge over River Lieverre, Mount Laurier, $60,000. O. Desjardines, Dpt. P. Wks., Quebec City, engr.

**Que., Dorval**—Province of Quebec, concrete subway. E. Gohier, 10 St. James St., E., Montreal, engr.

**Que., Ville St. Pierre**—Province of Quebec, Quebec City, steel, concrete bridge and underpass. $100,000. Crepeau & Cot, 45 Wellington St. N., Sherbrooke, engr. CD 6/19—ENR 6/22, under "Quebec."

**BIDS ASKED**

*Bids Asked August 1*

**South Carolina**—State Hy. Dpt., Columbia, 30 ft. rein.-con., structural steel bridge under Seaboard Airline R.R., bituminous surfacing 0.365 mi. approaches between Walnut and Brooks Sts., city of Abbeville, Abbeville Co.; 109 ft. rein.-con. bridge over A. C. L. R.R. in Ridgeland, Route 36, Jasper Co.; rein.-con., structural steel bridge under Charleston and Western Carolina R.R. and 0.454 mi. bituminous surface approaches near Laurel Creek between Greenville and Woodruff, Greenville Co.; widening U.S. Route 76 with rein.-con., structural steel of existing underpass, 0.175 mi. plain concrete paving approaches under Columbia, Newberry & Laurens Ry. on East Main St. in Laurens, Laurens Co.

*Bids Asked August 2*

**New York**—Dpt. Parks, R. Moses, comr., Arsenal Bldg., Central Park, 5 Ave. and 64 St., New York, grade separations at Flatbush Ave. and at Ocean Parkway, grading, paving, Contr. MS-39-8, Shore Parkway, Kings Co. PWA.

**Ontario**—Provincial Govt. Dpt. Hys., Ottawa, Elmira Bridge, Solomon Creek and 2 bridges in Kendall Twp., Gregoire Mills Bridge (Cochrane Div.), Nestor Falls Bridges, Chesters Bridge, South River Bridge, Middle Lake Bridge Approaches, Pellatt Rd., Approaches to Shumacher Overhead (fill only).

*Bids Asked August 3*

**Conn., Rockville**—Town, G. Scheets, first selectman, Town Hall, replacing steel, concrete bridge over Hockanum River, Vernon Ave. $45,000. CD 7/24.

**Rhode Island**—Division Purchases, at office State Purchasing Agent, State Office Bldg., Providence, Central Bridge No. 145, nine 36 ft. span, T beam, approaches, at Barrington; sheet asphalt binder and surface course on 7 in. concrete base course with crack control surfacing 0.35 mi. Main St., East Greenwich, Kent Co., Contr. 3910 for State and Providence Plantations, Providence.

*Bids Asked August 4*

**New York**—Dpt. Parks, R. Moses, comr., Arsenal Bldg., Central Park, 64 St. and 5 Ave., New York, Contr. MS 39-5 Shore Parkway, grade separations at Ft. Hamilton Parkway and at 69 St., grading, paving, Kings Co. PWA.

**Pennsylvania**—State Hy. Dpt., J. L. Hurbensecy., North Office Bldg., Harrisburg, I-beam bridge, bituminous on native stone or modified crushed aggregate surfacing 29,680 ft., Route R-45041, Sect. 2, Chestnut Hill Twp., Monroe Co.

*Bids Asked August 10*

**†Mississippi**—Public Roads, 220 Old Post Office Bldg., Vicksburg, steel beam bridge with concrete floor over Black Creek, Mississippi Forest Hy. Project 21-A, DeSoto National Forest, Perry Co.; adv. ENR 7/27.

**†Mississippi**—Public Roads, Vicksburg, steel beam bridge with concrete floor over Black Creek, Mississippi Forest Hy. Project 21 A, DeSoto Natl. Forest, Perry Co. $40,000.

*Bids Asked August 22*

**Indiana**—State Hy. Comn., T. A. Dicus, chn., Indianapolis, 192 ft. continuous steel beam bridge over Patoke River, north of Oakland City, Gibson and Pike Counties; rein.-con. girder bridge over Lauramie Creek, southeast of Monroe; rein.-con. arch exten. over Lauramie Creek northwest of Monroe, both Tippecanoe Co.; rein.-con. arch exten. over Little Pile Creek, near Peru, Miami Co.; 600 ft. steel truss bridge over Wabash River at Peru, Miami Co.; 76 ft. steel beam bridge over Pennsylvania Ry. subways at Valparaise, Porter Co. Tentative date.

*Bids Asked*

**Que., St. Theophile**—J. Richiard, municipality clk., concrete bridge between St. Martin and Armstrong. $25,000. O. Desjardines, Dpt. P. Wks., Quebec City, engr.

**CONTRACTS AWARDED**

**Conn., Terryville**—Town of Plymouth, W. H. Eustice, chn. Building Comn., 2 bridges, Todd Hollow section and 1 in North Dist. **WPA.** Est. **$35,000.**

**Ill., Chicago**—Dpt. P. Wks., City Hall, new asphaltic flooring, rehabilitation, etc., bridge over Chicago River, Michigan Ave. City forces. **$75,000.** Materials purchased.

**Ill., Oakford**—Chicago & Illinois Midland R.R., C. H. Paris, ch. engr., Illinois Bldg., Springfield, reconstructing major portion Sangamon River Bridge, to St. Clair Constr. Co., Wheaton. **$77,863.**

**Kentucky** — State Dpt. Hys., Frankfort, bridge and approaches 1.459 mi. Bourbon Co., to O. V. Arnett, Berea, **$90,163*****substructure and superstructure bridge, Pendleton Co., to Shields Constr. Co., Lexington, **$84,153.** Bids 7/14. CD 6/20—ENR 6/22, under "Roads."

**Kentucky** — State Dpt. Hys., Frankfort, bridge painting, MP 6-F1 and 34-C, Johnson Co. State forces. Bids July 14, rejected. CD 7/20 at end of CA report—ENR 6/22, under "Roads."

**Michigan**—State Hy. Dpt., Lansing, Court St., FAGM X-1 73-20-22C-1, grade separation 7 rolled beam spans, bridge of one 40 ft. rolled beam span, one 120 ft. deck girder, three 85 ft. deck girder spans, three 40 ft. rolled beam spans, Saginaw Co., to W. J. Meagher, 17 and Water Sts., Bay City, **$467,769.**

**New Jersey**—E. D. Sterner, comr. State Hy. Dpt. Trenton, grade crossing elimination at Grandin, on Clinton-Pittstown Rd. over Lehigh Valley R.R., Hunterdon Co., to A. S. Wilkstron, Bound Brook, **$106,950.** Bids 7/5. CD 6/20—ENR 6/22.

**New York**—Dpt. Parks, R. Moses, comr., Arsenal Bldg., Central Park, 5 Ave. and 64 St., New York, Contr. S. So 39-2, Southern Parkway Bridge at Rockaway Blvd., incl. paving, drainage from Baisley Blvd. to 135 St., Queens Boro, to Petracca & Bankin, Winfield, **$392,819.** Bids 6/19. CD 6/7—ENR 6/15.

**†North Carolina**—Public Roads, Winder Bldg., Wash., D. C., rein.-con. bridge with stone facing Route 26, Blue Ridge Parkway, McDowell and Mitchell Counties, to C. T. Thomason Co., Greenwood, S. C. **$28,565.** Bids 6/15. CD 5/23—ENR 5/25.

**North Carolina**—State Hy. and P. Wks. Comn., Raleigh, structures 7.49 mi. Route 181, Proj. 8109, Burke Co., to Anderson & Houser, Asheville, **$31,674.** Est. $25,000-$50,000. Bids 7/11, awarded 7/19. CD 6/29—ENR 7/6.

**†N. C., Coinjock**—U. S. Eng., 415 Post Office and Courthouse Bldg., Norfolk, Va. symetrical double swing highway bridge over Inland Waterway, to T. A. Loving & Co., Goldsboro, **$136,500.** Bids 6/23. CD 5/26—ENR 6/1.

(Contract Unit Prices continued from page 13)

## RETAINING WALL, WASH.

OWNER: Seattle Board of Public Works; C. L. Wartelle, engineer.

PROJECT: Construction of a concrete retaining wall. Stipulated contract time is 60 days, and transportation by rail, highway and water is available.

BIDS: Seven bids were received June 15, 1939, ranging from the contract low of $34,830 to $59,854. Minimum labor rates are as follows: skilled, $1.25 per hr.; common, 90c. per hr.

LOW BIDDERS:

1. Western Construction Co., Seattle (contract).. $34,830
2. Nelse Mortensen, Seattle..... 38,176
3. J. B. Covello, Seattle..... 38,304

| Item | Quan. | Unit Prices (1) | (2) | (3) |
|---|---|---|---|---|
| 1. Clear. grub | L. S. | $10,555.00 | $10,829.00 | $10,000.00 |
| 2. Steel sheet piling | 260,000 lb. | .043 | .05 | .06 |
| 3. Spec. steel sheet transition and corner piling | 2,000 lb. | .064 | .07 | .06 |
| 4. 1¼-in. steel tie roads | 288 l. f. | 1.80 | 2.06 | .67 |
| 5. 1¼-in. tie rods | 96 l. f. | 2.00 | 4.85 | .84 |
| 6. 1½-in. tie rods | 128 l. f. | 2.25 | 3.83 | 1.02 |
| 7. 2-inch tie rods | 320 l. f. | 2.25 | 2.37 | 1.06 |
| 8. 2½-in. tie rods | 64 l. f. | 2.73 | 7.52 | 1.46 |
| 9. Angle iron support for conc. coping | 8,800 lb. | .09 | .075 | .06 |
| 10. Conc. in deadman early strength cement | 66 c. y. | 33.20 | 26.16 | 30.00 |
| 11. Conc. in coping and connecting wall early strength cement | 105 c. y. | 19.50 | 24.56 | 30.00 |
| 12. Reinf. | 16,700 lb. | .05 | .06 | .06 |
| 13. Copper seal | 35 lb. | 1.25 | .55 | 1.50 |

## HIGHWAYS, OREGON

OWNER: Oregon State Department of Public Roads for U. S. Bureau of Public Roads; W. H. Lynch, district engineer, Portland.

PROJECT: Grading, surfacing and bituminous paving 2.06 mi. of the Columbia River Highway between Eagle Creek and Cascade Locks, Multnomah and Hood River Counties.

CONDITIONS: Transportation by rail, highway and water is available. Minimum labor rates are as follows: skilled, $1.50 per hr.; semi-skilled, 75c. per hr.; common, 50c. per hr.

BIDS: Twelve bids were received January 25, 1939, ranging from the contract low of $75,928 to $117,867.

LOW BIDDERS:

1. Babler Bros., Portland (contract)..... $75,928
2. E. C. Hall Co., Eugene, Ore..... 79,374
3. Homer G. Johnson, Portland..... 86,979

| Item | Quan. | Unit Prices (1) | (2) | (3) |
|---|---|---|---|---|
| 1. Maintenance of existing rd | all reqd. | $800.00 | $800.00 | $800.00 |
| 2. Extra and misc. force account work | all reqd. | 1,000.00 | 1,000.00 | 1,000.00 |
| 3. Clearing | 1 acre | 150.00 | 300.00 | 150.00 |
| 4. Grubbing | 2 acres | 150.00 | 200.00 | 150.00 |
| 5. Selective removal, trees | 50 s. f. | 5.00 | 2.00 | 3.00 |
| 6. Uncl. excav. | 25,000 c. y. | .30 | .37 | .25 |
| 7. Uncl. excav. for struct | 500 c. y. | 1.00 | 1.50 | 1.00 |
| 8. Uncl. excav. for borrow | 8,000 c. y. | .40 | .30 | .35 |
| 9. Special overhaul | 160,000 s. y. | .01 | .01 | .02 |
| 10. Special overhaul | 4,500 c. y. mi. | .20 | .15 | .16 |
| 11. Roadside cleanup | 1 acre | 500.00 | 200.00 | 200.00 |
| 12. Fine grad. of subgrade and shoulders | 1.4726 mi. | 500.00 | 300.00 | 300.00 |
| 13. Dry choked stone or slag base course | 33,000 tons | .82 | .85 | 1.02 |
| 14. Crusher run bottom course | 2,500 tons | .82 | .90 | 1.02 |
| 15. Crusher run top course | 12,500 tons | .82 | 1.00 | 1.10 |
| 16. Watering | 1,400 units | 1.00 | 1.00 | 1.50 |
| 17. Prov. and maint. water plant or plants | all reqd. | 500.00 | 500.00 | 500.00 |
| 18. Cutback asph. Me-2 gr. for pr. coat | 100 tons | 10.00 | 8.00 | 7.00 |
| 19. EO Four-application macadam | 4,200 tons | 1.65 | 2.25 | 2.00 |
| 20. EO asphalt | 190 tons | 10.00 | 8.00 | 7.00 |
| 21. EO cutback asph. RC-3 grade | 35 tons | 10.00 | 8.00 | 7.00 |
| 22. 36-in. corr. galv. sheet metal pipe | 10 l. f. | 4.00 | 5.00 | 5.00 |
| 23. 18-in. bit. coated corr. sh. met. pipe type 1 | 10 l. f. | 1.70 | 3.25 | 2.50 |
| 24. 24-in. bit. coated corr. sh. met. pipe type 1 | 20 l. f. | 2.50 | 4.00 | 3.00 |
| 25. 8-in. bit. ctd. perf. corr. sh. met. pipe underdr. type 2 | 400 l. f. | .75 | 1.00 | 1.00 |
| 26. Conc. curb 24-in. depth | 420 l. f. | 1.00 | .75 | .90 |
| 27. Floating non-float. or beam type single elem. 90 000 lb. grd. rail (posts 2' 6" centers) | 950 l. f. | 1.50 | 1.40 | 1.60 |
| 28. Dry rubble slope pav. 1 ft. thick | 600 s. y. | 4.00 | 2.50 | 4.00 |
| 29. Dry rubble slope pav. 1 ft. 6-in. thick | 400 s. y. | 6.00 | 2.50 | 6.00 |

## EARTH EMBANKMENT, OHIO

OWNER: Ohio State Department of Conservation, Columbus.

PROJECT: Construction of an earthen embankment, spillway structures, retaining walls, outlet and gate valve at Van Buren Lake, Section 18 in Allen Township, Hancock County.

CONDITIONS: Transportation by rail and highway are available. Project must be completed by Oct. 1, 1939. Minimum labor rates are as follows: skilled, $1.00 per hr.; semi-skilled, 80c. per hr.; common, 60c. per hr.

BIDS: Eleven bids were received June 19, 1939, ranging from the contract low of $18,718 to $25,688.

LOW BIDDERS:

1. H. W. Holt, Columbus (contract)..... $18,718
2. Robert J. Darnell, Ada, Ohio..... 19,359
3. W. E. Dorsey, Findlay, Ohio..... 19,863

| Item | Quan. | Unit Prices (1) | (2) | (3) |
|---|---|---|---|---|
| 1. Excav., struct | 7,551 c. y. | $0.25 | $0.40 | $0.40 |
| 2. Excav., core trench | 878 c. y. | .50 | .15 | .40 |
| 3. Excav. below elev. 744 | 404 c. y. | 1.00 | 1.50 | 1.00 |
| 4. Borrow | 9,048 c. y. | .25 | .36 | .30 |
| 5. 1:5½ mix conc | 894.9 c. y. | 13.636 | 11.50 | 12.00 |
| 6. Reinf. | 21,015 lb. | .03 | .04 | .05 |
| 7. 12-in. 24-oz. copper strip | 283 l. f. | .60 | .76 | 1.00 |
| 8. 1-in. premo. exp. joint material | 650 s. f. | .20 | .25 | .30 |
| 9. Hand laid stone rip-rap | 202 s. y. | 1.65 | 2.40 | 3.00 |
| 10. Rubble stone masonry | 10 c. y. | 8.00 | 11.00 | 10.00 |
| 11. 24-in. galv. iron pipe | 10½ l. f. | 2.40 | 2.85 | 19.048 |
| 12. Gate Valve, low national model A-2703, 24-in. with Style "E" flange and spigot frame, or equal | 1 ea. | 260.00 | 210.00 | 200.00 |

## WATERWORKS IMPROVEMENTS GAINESVILLE, FLORIDA

OWNER: City of Gainesville, Fla. Robert & Co., Atlanta, Ga., engineers.

PROJECT: Waterworks improvements, including water mains, gate valves and boxes, and hydrants.

CONDITIONS: Contract awarded April 27, and must be completed in 105 calendar days. Contractors to furnish all materials. Wage rates on the job are: skilled, $1.00 per hr.; semi-skilled, 40 to 60 c. per hr.; and common labor, 30 c. per hr.

BIDS: Three bids were received on March 27, ranging from the contract low of $13,136 to the high of $13,314.

LOW BIDDERS:

1. J. L. Kelly, Miami, Fla. (contract)..... $13,136
2. M. R. Boyce Co., Clearwater, Fla..... 13,305
3. Ivy H. Smith Co., Jacksonville, Fla..... 13,314

| Item | Quan. | Unit Prices (1) | (2) | (3) |
|---|---|---|---|---|
| 1. 6 in. water main | 7,670 l. f. | $1.23 | $1.20 | $1.14 |
| 2. 6 in. gate valves and boxes | 30 ea. | 28.00 | 40.00 | 35.00 |
| 3. 4 in. water main | 2,220 l. f. | .82 | .80 | 1.00 |
| 4. 4 in. gate valve and box | 1 ea. | 22.00 | 20.00 | 25.00 |
| 5. Fire hydrants | 17 ea. | 60.00 | 65.00 | 75.00 |

Bridges, etc. (Continued)

**Oklahoma**—State Hy. Dpt., Oklahoma City, underpass Bryan Co., to O. J. Pharoah, Henryetta, **$50,627**, est. $59,431***underpass Mayes Co., to Brooks & Dahlgren, Insurance Bldg., Oklahoma City, **$23,696**, est. $29,941***210 ft. bridge Osage Co., to Lee Pool & Sons, Fairview, **$35,436**, est. $38,052***overpass, Oklahoma Co., to Moran & Buckner, Muskogee, **$69,961**, est. $82,000***680 ft. bridge, Noble Co., to M. J. McNulty, Deniles Bldg., Tulsa, **$76,250**, est. $89,100. Grand total $255,970. Bids 7/18. CD 6/13—ENR 6/15.

**Okla., Konawa**—Seminole Co., Wewoka, 188 ft. rein.-con. bridge, near here, **WPA. $25,000.** R. Grace, Wewoka, engr.

**Pa., Oil City**—Comrs. Venango Co., Court House, Franklin, repairing, resurfacing floor Petroleum St. bridge, to J. C. Speaker, 325 McCully St., Pittsburgh, **$19,500.** Est. $25,000. Bids 7/19, awarded 7/19. CD 6/30—ENR 7/6.

**Tex., Port Arthur**—N. D. Roder, mayor, bridge and drainage structures, paving, in Del Mar Addn. **WPA. $225,000.** CD 2/17—ENR 2/23.

**N. B., Newcastle Creek**—2 span, 590 ft. total length, rein.-con. bridge, to E. A. Caldwell, Edmunston, **$54,000.**

**Que., Montreal**—Canadian National Ry., C. B. Brown, ch. engr., 360 McGill St., subway between Inspector and Ste. Genevieve Sts. on St. Antoine St., to Foundation Co., Ltd., 1538 Sherbrooke St. W., **$30,000.** Bids 7/12. CD 7/5.

## STREETS AND ROADS

### BIDS ASKED

*Bids Asked July 31*

**N. Y., New York**—President Bronx Boro, Bronx County Bldg., E. 161 St. and Grand Concourse, paving, grading, setting curb, laying sidewalks, etc., Arlington Ave., granite block repaving E. 153 St., brick repaving E. 168 St., sheet asphalt repaving Clay Ave., furnishing, del. materials and equip.

*Bids Asked July 31*

**N. Y., St. George**—President Richmond Boro, Boro Hall, bituminous concrete paving Hylan Blvd.

*Bids Asked August 1*

**†Idaho**—B. J. Finch, dist. engr. Public Roads Administration, Federal Bldg., Ogden, Utah, surfacing 9.203 mi. Ketchum-Clayton Forest Hy., Blaine Co.; 12.057 mi. North Fork Payette Forest Hy., Payette Natl. Forest, Boise Co. $75,000.

**Ill., Paxton**—Ford Co., gravel or crushed stone surfacing 6.9441 mi. Sect. 16 MFT; also 5x10x26 ft. rein.-con. box culverts. G. H. Baker, Centennial Bldg., Springfield, state engr. co. roads and city streets.

**Maryland**—State Roads Comn., Baltimore, bituminous road mix surfacing 4.856 mi. hy. Contr. C-102-2-811, Calvert Co.

**N. Y., Long Island City**—President Queens Boro, Queens Subway Bldg., 21-10 49 Ave., regulating, asphaltic concrete repaving, asphaltic block repaving, 30 (Grand) Ave., 38 (Freeman), Onderdonk, 36 (Washington), Gates, Thompson and 21 Aves., 27 (Prospect), 21 (Van Alst Ave.), 27 (Prospect), 109, 34 (5 Ave.), 36, 149 (7 Ave.), 37 (8 Ave.), Sts., 30 Rd., Farmers Blvd., 30 Dr. (Elm St.).

**O., Cleveland**—Bd. Comrs. Cuyahoga Co., G. H. Stahler, clk., paving Bulkley Blvd. from W. 32 to W. 45 Sts. $117,500. J. O. McWilliams, Standard Bldg., engr.

**West Virginia**—State Road Comn., Charleston, grading, draining, concrete paving, sidewalks 0.45 mi. E. Main and Marshall Sts., Clarksburg, State Projects 3659-B and 3660 (part), Harrison Co.; surface treating 4.9 mi. Mt. Olive-Gay Secondary Rd., State Project 5171, Jackson Co.; reconstructed base and surface treating 4 mi. Grassy Branch-Ada Pump Secondary Rd. 29, State Project 5092, Mercer Co.; grading, macadam base, road mix leveling course, asphaltic concrete surfacing 5.809 mi. Raleigh-Shady Spring Rd., F.A. Projects 173-D(2), F.A. 173-G(2), F.A. 173-B(2), Raleigh Co.; asphaltic concrete surfacing 0.902 mi. streets in Spencer, State Projects 2087, 2159 and 2160, Roane Co.; grading, draining, traffic bound gravel or slag surfacing 8.015 mi. Murphytown-Deerwalk Rd., F.A. 41(3), F.A. 143-H(1), F.A. 143-A(2), Wood Co. M. R. Hamill, secy.

**West Virginia**—State Road Comn., Charleston, grading, draining, concrete paving, sidewalk 0.45 mi. E. Main St. and Marshall St., Clarksburg, S.P. 3659 B and 3660, Harrison Co.; surface treatment 4.9 mi. Mt. Olive Gay-Secondary Rd., S.P. 5171, Jackson Co.; reconstructing base and surface treatment 4 mi. Grassy Branch-Ada Pump Secondary Rd. 29, S.P. 5092, Mercer Co.; grading, macadam base, road mix leveling coarse and asphaltic concrete surface, 5.809 mi. Raleigh-Shady Spring Rd., FA 173 G, and FAP 173 D, Raleigh Co.; asphaltic concrete surfacing 0.902 mi. Spencer Streets, S.P. 2087, 2159 and 2160 Roane Co.; grading, draining, traffic bound gravel or slag paving 8.015 mi. FAP 41, FA 143-H and FA 143A, Wood Co. M. R. Hamill, secy.

**N. S., Yarmouth**—Dir. Contracts, Dpt. National Defense, Ottawa, Ont., road diversion and paving Canadian Air Force Aerodrome. $25,000.

*Bids Asked August 2*

**Colorado**—State Hy. Dpt., Denver, gravel surfacing 1.332 mi. Georgetown-Silver Plume Rd., S.H. 91, Clear Creek Co.; 2.892 mi. Franktown-Packer Rd., S.H. 83, Douglas Co. C. D. Vail, State Office Bldg., Denver, engr.

**Ill., Pekin**—Tazewell Co., bituminous seal coat surfacing 13.2323 mi. for maintenance. G. H. Baker, Centennial Bldg., Springfield, state engr. co. roads and city streets.

**Kentucky** — State Dpt. Hys., Frankfort, surfacing 8.3 mi. Brooksville-Cynthiana Rd., SP 58¼, Bracken Co.; 1.05 mi. 12 St., Murray, SP 1692, Calloway Co.; 8 mi. Hardin-Eggner's Ferry Rd., SP 490, Marshall Co.; 3.368 mi. Shelby-Millard, Va. state line, REC. 6½B-BM, Pike Co.; 1 mi. Phelps-Nigh Rd., REC 694-A-BM, Pike Co.; grading, draining, surfacing 1.071 mi. Linton-Tennessee line Rd., SP. 708, Trigg Co.; 5.978 mi. Lynnville-Sedalia Rd., SP 322; 2.1 mi. Fancy Farm-Lowes Rd., SP 1554, both Graves Co.; 2 mi. West Liberty-Paintsville Rd., SP 183 A; 2.5 mi. SP 183 B, same road, both Morgan Co.; overhead bridge at L. and N. tracks, near Mannington on Hopkinsville-Madisonville Rd., WPGH 111, A(4)B, Christian Co.

**Md., Baltimore**—Concrete paving streets listed under Contr. CC712.

**N. Y., St. George** — President Richmond Boro, Boro Hall, bituminous concrete paving New St.

**Ontario**—Provincial Govt., Dpt. Hys., Ottawa, concrete paving 5 mi. Blind River East, hot mix paving 12 mi. Fort William, S. W.; connecting link, Town of Preston; Tillsonburg North and East; grading Thorold Stone Rd. to Lundsy Lane and new Niagara Bridge approaches; crushed graveling Pembroke to Barry's Bay; Barry's Bay to Madawaska, Maynooth to Whitney; Gore Bay to Meldrum Bay Rd.; Secondary Rd. (Fort William Div.); surface treatment 16 mi. Pigeon River to Cloud River Hy. 61; rock fill Sink Holes on No. 7 Hy. East of Actinolite.

**Ont., Pembroke**—Dpt. P. Wks., Toronto, grading, and 15,000 tons gravel for Hy. 62 Pembroke-Round Lake, 10,000 tons gravel for Trans Canada Hy. in the Deux Rivieres Sect., etc. About $150,000.

*Bids Asked August 3*

**Ill., Amboy**—Concrete paving 0.1187 mi. Sect. 2-CS; bit. road mix surfacing 0.1822 mi. Sect. 3-CS. G. H. Baker, Centennial Bldg., Springfield, state engr. co. roads and city streets.

★**Nebraska**—A. C. Tilley, engr. State Hy. Dpt., Lincoln, grading, culverts, 3 bridges, 13.9 mi. Wayne-Harrington Rd., Wayne, Dixon and Cedar Counties; 18 mi. U.S. 81, north of Norfolk, Norfolk-Wausa, Pierce Co.; 14.5 mi. Beatrice-Kansas State line, U.S. 77, Gage Co.; grading, culverts, paving 0.2 mi. Superior-Clay Center Rd., Nuckolls Co.; grading, culverts 9.9 mi. St. Paul-Loup City Rd., Sherman Co.; 10.4 mi. Ainsworth-Bassett Rd., Brown and Rock Counties; soil cement base course bituminous surfacing 4.5 mi. U.S. 81 north of Norfolk, Madison and Pierce Counties; grading, culverts, 2 bridges 10.8 mi. Alliance-Chadron Rd., Dawes Co.; grading, culverts, concrete paving, guard rail 6.5 mi. U.S. 30, Alt. and Neb. 92 between David City and Wahoo, Butler Co.; grading, culverts, 2 bridges, concrete paving, guard rail 10 mi U.S. 30, Alt. and Neb. 92 between David City and Wahoo, Saunders Co.; grading, culverts, 4 bridges, 4 mi. S.H. 2, Sweet Water-Hazard, Sherman Co.; 16.2 mi. S.H. 2, Ravenna-Grand Island Rd., Buffalo, Hall Counties; guard rail U.S. 83, Mason City-Litchfield Rd., Custer Co.; U.S. 77, Fremont-Mead Rd., Saunders Co.; bituminous surface treatment 7.3 mi. S.H. 19, Chadron-Alliance Rd., Dawes Co.; 12.4 mi. S.H. 19, Alliance-Chadron Rd., Box Butte Co.; grading, culverts, sand gravel surfacing 1.5 mi. Arthur-Hyannis Rd., Grant Co.; grading, culverts, 1 bridge, stabilized soil base, bituminous surfacing, guard rail 2.5 mi. Gering-Mitchell Rd., Scotts Bluff Co.; grading, culverts, 1 bridge, sand gravel surfacing, guard rail 6.5 mi. south of Beatrice, Gage Co.; 2.9 mi. Secondary Hy., Hitchcock Co.; 4.1 mi. Springfield-Papillion Rd., Sarpy Co.; sand gravel surfacing 18.6 mi. U.S. 73W & 77 between Winnebago and Lyons Rd., Thurston and Butt Counties; grading, culverts, 2 bridges 1.2 mi. Concord and Nebraska 15, Dixon and Cedar Counties; sand gravel surfacing 5.2 mi. Fairbury-Hebron Rd., Jefferson Co.; 5.9 mi. Hazard-Ravenna Rd., Buffalo Co.; 8.9 mi. Elba-St. Paul Rd., Howard Co.; maintenance gravel surfacing, 3,508 cu. yd. U.S. 81, Fairmont-Bruning, Fillmore and Thayer Counties; 1,027 cu. yd. detour for U.S. 77, Beatrice-Wyoore Rd., Gage Co.; 2,485 cu. yd. Grant-Grainton Rd., Perkins Co. $1,695,000.

**O., Dayton**—Montgomery Co., F. E. Treon, clk., Court House, spot tarring various twp. roads. About $31,000. V. C. Smith, Court House, co. engr.

*Bids Asked August 4*

**Kansas** — State Hy. Dpt., Topeka, bituminous mat surfacing 6.007 mi. FAS 106 A; 0.822 mi. K. 1090, Shawnee Co.

**Minnesota**—State Hy. Dpt., St. Paul, grading, paving, bituminous surfacing 3.4 mi. S.P. 6209-02, S.P. 6210-01, S.P. 8203-01, FAP 305 and 305B between English St. and Hastings Ave. in St. Paul, 0.4 mi. east of West Washington Co line; 2.7 mi. S.P. 6212-05-NRS 464 B, S.P. 6212-06 between ¼ mi. west of Rice St. and Junction Trunk Hy. 61, 4.5 mi. S.P. 6220, between Hastings Ave. and South City limits of St. Paul; 11.5 mi. S.P. 7101-07, S.P. 0202-10, FAP 44 and 16; 8.1 mi. S.P. 38-201-02 Forestry Project 15C between Toimi Rd. and Greenwood Lake, Lake Co.; 2.8 mi. S.P. 2801-01, FAP 313, 2 mi. east of Houston and 3 mi. west of Hokah. J. T. Ellison, ch. engr.

†**Oregon**—Public Roads, 316 New Postoffice Bldg., Portland, imprv. 3.6788 mi. Klamath Falls-Lakeview Hy., Project 30 D, Lake Co.; 1.5088 mi. Pendleton John Day Hy., Project 34-A2 B2, Malheur Natl. Forest, Grant Co.

**Pennsylvania** — State Hy. Dpt., I. L. Hughes, secy., North Office Bldg., Harrisburg, concrete widening, bituminous surfacing, etc., 16,204 ft. R-271, Sect. 1R, Union City Boro, Union Twp., Erie Co.; bituminous on native stone surfacing 1,622 ft. Route R-105, Gibson Twp., Cameron Co.; rein.-con. paving, bituminous on native stone surfacing, rein.-con. structure, etc., 14,449 ft. Route R-53, Sects. 5 and 7, Cresson, Juniata, and Allegheny Twps., Cambria and Blair Counties; bituminous on native stone or crushed aggregate surfacing, I-beam bridge 14,972 ft. Route R-61033, Appl. 4250, Sheffield Twp., Warren Co.; bituminous on native stone surfacing, grading 12,647 ft. Route R-52020, Sect. 2, Sweden and Ulysses Twps., Potter Co.; bituminous on concrete resurfacing 3,955 ft. R-67029, Sect. 2, Philadelphia Co.; bituminous resurfacing, guttering, etc., 12,430 ft. Route R-213, Sect. 1R, Sand Creek and Perry Twps., Mercer Co.; bituminous surfacing, rein.-con. paving, etc., 3,839 ft. Route R-5, R-35011, Sects. 8 and 1, Pittston, Luzerne Co.; bituminous resurfacing 8,267 ft. Route 35009, Sect. 6, Scranton, Lackawanna Co.; concrete widening, bituminous surfacing, etc., 20,048 ft. Route R-272, Sect. 1R, Elk Creek and Cussewago Twps., Erie and Crawford Counties; rein.-con. paving, bituminous on crushed aggregate surfacing, rein.-con. bridge, etc., 11,948 ft. Route R-160, Sect. 3-A, Muhlenberg Twp., Berks Co.

*Bids Asked August 7*

**Pa., Coraopolis**—Boro Council, W. E. Cain, secy., constructing concrete sidewalks throughout boro. $25,000. Edeburn, Cooper & Co., Law & Finance Bldg., Pittsburgh, engrs.

**Wash., Walla Walla**—Walla Walla County Comm., oiling with bituminous surface mix, 21 mi. Rulo-Harsha section Sudbury Rd. and road east from Clyde, through Smith Springs. $29,567. Gravel to be furnished by county, roadway already prepared. E. R. Smith, Court House, engr.

*Bids Asked August 9*

**California**—C. H. Purcell, engr. State Hy. Dpt., P. Wks. Bldg., Sacramento, grading, asphaltic concrete paving, bridging, 6.2 mi. hy. between Proberta and Red Bluff, Tehama Co.; imported surfacing material, applying road mix surface treatment 2.4 mi. hy. Phillips, El Dorado Co.; grading, applying penetration oil treatment 13.4 mi. hy. Bridgeport, Mono Co.; road mix surface treating 23.7 mi. hy. Dorrington, Calaveras and Alpine Counties.

**Louisiana**—State Hy. Comn., Baton Rouge, grading, surfacing 9.187 mi. Routes 804, C-1572, C-1573 and C-1574, Project 1308, Vermillion Hys., Vermillion Parish, bids 6/21 rejected, CD 6/28—ENR 7/6; concrete paving 6.647 mi. Flayton-Ferriday Hy., Route 15, Project 2203-C-2, Concordia Parish; 0.604 mi. Boutte-Mississippi River Bridge Hy., State Project 3653, Route 2, incl. grade crossing overpass and approaches, Jefferson Parish.

*Bids Asked August 16*

**Louisiana**—State Hy. Comn., L. E. Fraser, chn., Baton Rouge, concrete paving 1.399 mi. Socola-South Hy., Route 31, Project 4753-B, Plaquemine Parish; Nantachnie Bayou bridge approaches, Colifax-Natchitoches Hy., Route 1, Project 3106, Grant Parish.

*Bids Asked August 23*

**N. J., Rumson**—Bd. Freeholders Monmouth Co., Freehold, Contr. 4, approach roads for Oceanic Bridge over North Shrewsbury River between Rumson and Locust Point, PWA. Ash, Howard, Needles & Tammen, 55 Liberty St., New York, engrs.

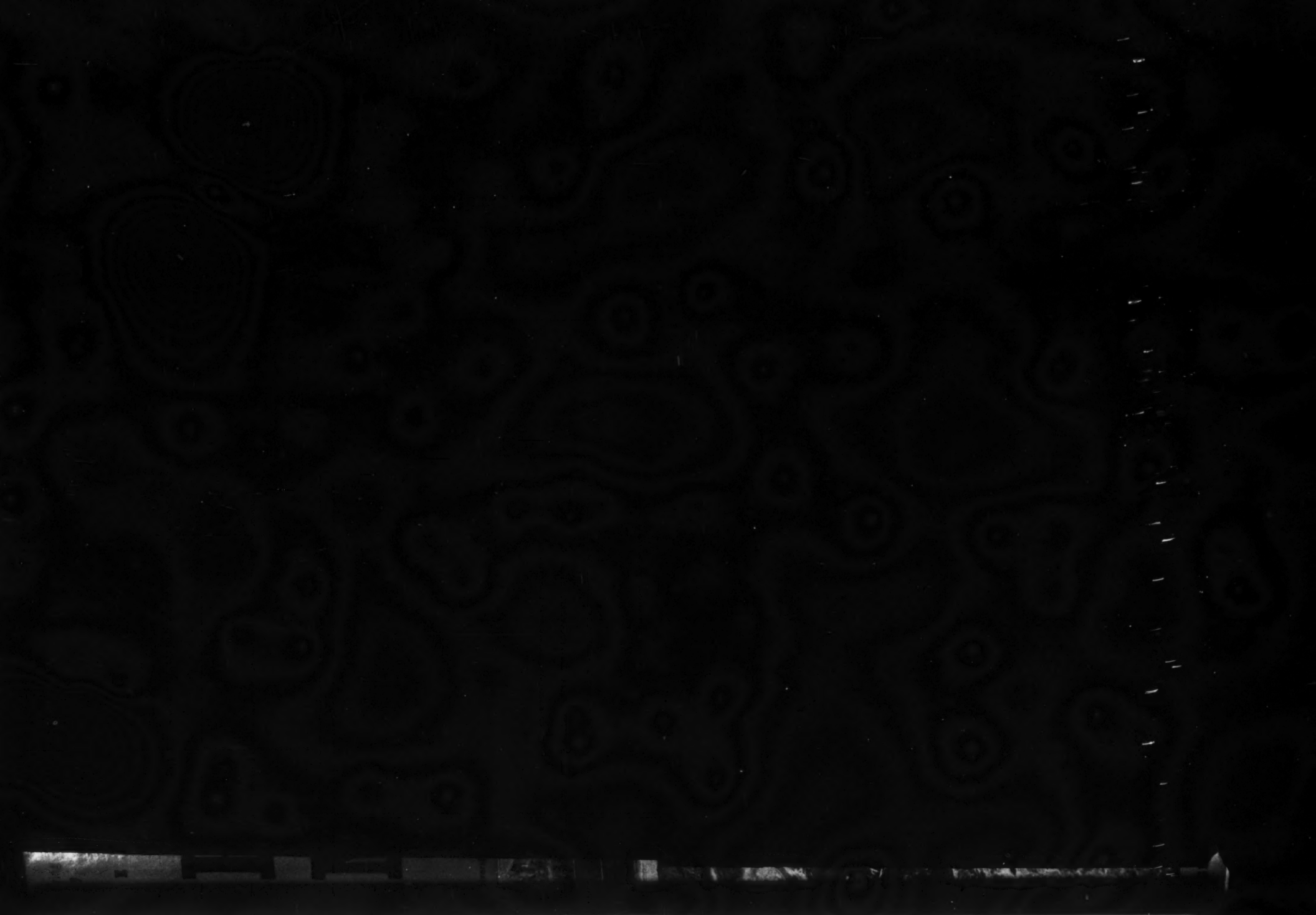
*Bids Asked*

**Calif., San Mateo**—Received no bids July 10, imprv. portions Beresford St., 40 and Burbank Aves. etc. Will probably readvertise. CD 6/28.

**Ill., Rock Island**—Bids in August. Paving Eleventh St. About $100,000.

**N. Y., Buffalo**—Common Council, bituminous repaving Michigan Ave., Pine, Sycamore, Exchange, Center, Tracy and Henry Sts. Over $25,000.

**Texas**—State Hy. Comn., Austin, cancelled bids to have been opened July 25, imprv. 0.353 mi. Kaufman Co. $20,000. CD 7/17.

### LOW BIDDERS

★**New York**—A. W. Brandt, supt. P. Wks. State Office Bldg., Albany, July 19, rein.-con. paving 10.21 mi. Warrensburg-Chestertown Rd., Parts 1 and 2, Reconstr. Contr. 4052, Warren Co., from Lane Constr. Corp., 35 Colony St., Meriden, Conn., $739,303. Est. $890,575. CD 6/27—ENR 6/29.